PINE STREET (HWY 89)

ROAD SAFETY AUDIT FINDINGS REPORT

July 2025

FINAL REPORT

METROPLAN
SMART PLANNING MAKES SMART PLACES.

SAFETY ACTION PLAN
CENTRAL ARKANSAS

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Introduction

Central Arkansas Safety Action Plan

Metroplan, the Metropolitan Planning Organization (MPO) for Central Arkansas, developed the Central Arkansas Safety Action Plan under the United States Department of Transportation (USDOT) Safe Streets and Roads for All (SS4A) Program. The Central Arkansas Safety Action Plan, adopted in November 2024, is the Region's road map to provide safe streets and roads for all travelers. The purpose of Safety Action Plan is to establish and implement steps that can help Central Arkansas reach zero fatal and serious injuries on the Region's roadways. The Safety Action Plan includes regional safety analysis results and public engagement to identify safety issues, project and policy recommendations, and an implementation plan that prioritizes locations for deployment of safety countermeasures.

The safety analysis, which reviewed historic crash data from 2018 through 2022, led to the development of a Regional High Injury Network (HIN). This HIN was created by selecting roadway segments and intersections with the highest density of fatal and serious injury crashes over the five-year analysis period. The HIN served as the basis for developing project recommendations and identifying locations for more detailed analysis and suggested improvements.

Following the completion of the Central Arkansas Safety Action Plan, Metroplan utilized the remaining funds from their SS4A grant to conduct road safety audits (RSAs) on roads in the four Metroplan counties. Metroplan staff coordinated with Lonoke County Officials to select a corridor within Lonoke County for more detailed analysis and suggested improvements. This coordination resulted in the selection of a 4.2-mile road segment of Pine Street (Highway 89), between Rockwood Road and Bill Foster Memorial Highway (Highway 321), for the RSA. A portion of this corridor was also reviewed during the development of the Central Arkansas Safety Action Plan as part of a walk audit with local officials. The walk audit primarily focused on neighborhood streets around Cabot High School, but did include a 0.25-mile segment of Pine Street between 2nd Street (Highway 367) and Lincoln Street.

The selected corridor of Pine Street is signed with several different names throughout the corridor including S. Pine Street, Highway 89, and Main Street. Throughout this document "Pine Street" or "the study corridor" will be referring to the segment of Pine Street between Rockwood Road and Bill Foster Memorial Highway, unless otherwise noted.

Road Safety Audit Process

An RSA is a formal safety examination of a transportation facility that is performed by an independent, experienced, multidisciplinary RSA team. RSA teams are independent of the owner and operator of the facility and are proactive in nature, focusing not just on locations where crashes have occurred, but also locations that appear to have the potential for crashes. Although RSAs include a formal safety examination, it is important to note that an RSA is not a review for compliance with standards.

The Pine Street RSA followed the 8-step RSA process as recommended by the FHWA and described in the *FHWA Road Safety Audit Guidelines* document (Publication FHWA-SA-06-06) and the *Road Safety Audit Toolkit for Federal Land Management Agencies and Tribal Governments* document (Publication FHWA-FLH-10-0011). A summary of the 8-step RSA process is provided in **Figure 1**.

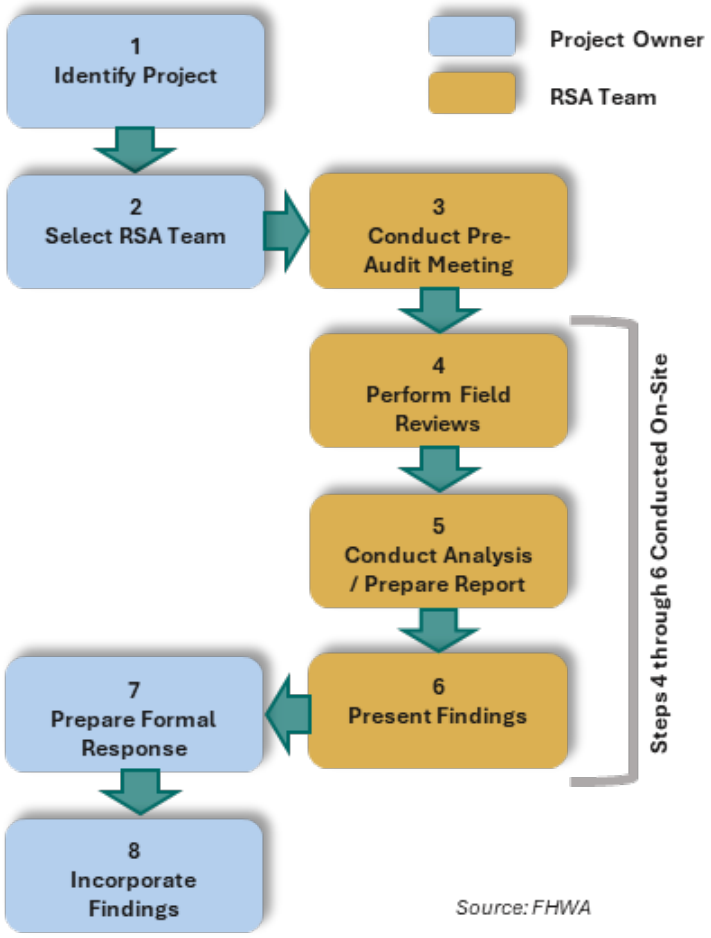


Figure 1: Road Safety Audit Process

The process assigns responsibility of the eight (8) steps to two (2) different groups: Project Owner and RSA team. The Project Owner for the Pine Street RSA is the City of Cabot, however the facilities included in the study are owned by either the City of Cabot or the Arkansas Department of Transportation (ARDOT). A description of the eight (8) steps are as follows.

Step 1 – Identify Project: Pine Street, between Rockwood Road and Bill Foster Memorial Highway, is on the High Injury Network in the Central Arkansas Safety Action Plan developed by Metroplan. Therefore, Metroplan and Lonoke County identified a need for an RSA on Pine Street in order to proactively improve safety.

Step 2 – Select RSA Team: The RSA team was selected by Cabot Mayor Ken Kincade during the Pre-Audit meeting. The team included representatives from Metroplan, City of Cabot, and the project consultants.

Step 3 – Conduct Pre-Audit Meeting: A general project Pre-Audit meeting was conducted virtually on February 27, 2025. The purpose of this meeting was to discuss the general RSA process, exchange data, and identify participants to include in subsequent activities.

Step 4 – Perform Field Reviews: The field review included an examination of Pine Street between Rockwood Road and Bill Foster Memorial Highway. The RSA team conducted their field review on April 17, 2025. The project consultants also drove and created of a video log of the corridor during both daytime and nighttime conditions.

Step 5 – Conduct Analysis/Prepare Report: Following the field review, the RSA team developed a set of observations to present to representatives of Metroplan and the City of Cabot. The RSA team identified suggested corridor-wide safety improvements for Pine Street, in addition to improvements that applied to specific point locations along the corridor.

Step 6 – Present Findings: The observations and safety concerns that were identified during the RSA field review, as well as the additional suggested improvements developed by the consultant team after the field review, were presented to Metroplan and City of Cabot staff during a virtual RSA Initial Findings meeting conducted on May 6, 2025. The consultant team then created a written report of the findings and provided the report to Metroplan and the City of Cabot.

Step 7 – Prepare Formal Response: A formal response to the RSA was not prepared by the City of Cabot, however the written report was sent to the City and they were provided with an opportunity to review and comment on the report before it was finalized.

Step 8 – Incorporate Findings: The final step in the RSA process is for the City of Cabot, as the owner of the project, to work towards implementing the agreed-upon suggested improvements from the RSA report in coordination with state and local partners.

Stakeholder Coordination

Pre-Audit Meeting

The Pine Street RSA began with a virtual Pre-Audit meeting on February 27, 2025. This meeting included members of the RSA Team, including representatives from Metroplan and the City of Cabot. All meeting attendees are listed in **Table 1**.

Table 1: Pre-Audit Meeting Attendees

Agency	Representative(s)
City of Cabot	Ken Kincade
Metroplan	Hans Haustein
Kimley-Horn **(RSA Team Consultant)**	Tom Fowler Kate Reichard
TEC **(RSA Team Subconsultant)**	Finley Vinson

The purpose of the Pre-Audit meeting was to brief Mayor Kincade on the RSA process, as well as review the pre-audit crash data analyses, and obtain information from the Mayor to assist the RSA team in conducting the RSA, such as identifying other City of Cabot staff that should be included for the RSA field review. Mayor Kincade briefed the RSA team on a variety of topics that were useful in conducting the RSA, such as roadway capacity challenges, left-turn conflicts, access management concerns, school traffic operations characteristics, and pedestrian tendencies.

Field Review

The Pine Street RSA field review was conducted on April 17, 2025. The RSA team began by meeting at the City of Cabot City Hall to brief the City of Cabot staff on the RSA's purpose, process, and benefits. The team also discussed pre-audit data analyses and obtained additional information from attendees to assist the RSA team in conducting the RSA. All field review participants are listed in **Table 2**.

Table 2: Field Review Participants

Agency	Representative(s)
City of Cabot	Brian Boroughs, Special Projects Director Ken Kincade, Mayor Chad Moore, Fire Chief Paul Ross, Street and Infrastructure Director Scott Steely, Chief of Police
Metroplan	Hans Haustein
Kimley-Horn **(RSA Team Consultant)**	Tom Fowler Kate Reichard
Crafton Tull **(RSA Team Subconsultant)**	Dave Roberts
TEC **(RSA Team Subconsultant)**	Finley Vinson

After the briefing, the RSA team went to the intersection of Pine Street and 2nd Street to begin observations of Pine Street. The RSA team then conducted observations from the northwest end of the study corridor to the southeast end, stopping at several key points along the way, such as the Main Street intersection, Campground Road intersection, Panther Trail intersection, and the Bill Foster Memorial Highway intersection. The RSA team members identified safety concerns, strengths, weaknesses, and possible improvements along Pine Street. Anecdotal experiences, crash and traffic volume data, railroad operations, school traffic operations, and past and recently considered projects were discussed as well.

Initial Findings Recap

Upon completion of the RSA field review, the RSA team developed a set of identified observations and safety concerns to share with Metroplan and City of Cabot staff at the Initial Findings meeting. This meeting was conducted virtually on May 6, 2025. All meeting attendees are listed in **Table 3**.

Table 3: Initial Findings Meeting Attendees

Agency	Representative(s)
City of Cabot	Brian Boroughs, Special Projects Director Ken Kincade, Mayor Chad Moore, Fire Chief Paul Ross, Street and Infrastructure Director Scott Steely, Chief of Police
Metroplan	Hans Haustein
Kimley-Horn **(RSA Team Consultant)**	Tom Fowler Kate Reichard
TEC **(RSA Team Subconsultant)**	Finley Vinson

During the Initial Findings meeting, the RSA team presented the list of observations and safety concerns identified during the RSA field review. Preliminary suggested safety countermeasures were also discussed with Metroplan and City of Cabot staff. This discussion allowed staff to provide feedback, ask questions, and suggest additional or alternative safety countermeasures.

Existing Conditions

General Roadway Characteristics

Pine Street, between Rockwood Road and Bill Foster Memorial Highway, is a 4.2-mile corridor in northwestern Lonoke County that cuts through the center of the City of Cabot. Pine Street is owned and maintained by the City of Cabot between Ryeland Drive/Going Drive and 2nd Street, but ARDOT owns and maintains the study section of Pine Street between Rockwood Road and Ryeland Drive/Going Drive and between 2nd Street and Bill Foster Memorial Highway. ARDOT also owns and maintains Interstate 57/US Highway 67, 2nd Street north of Pine Street, and Bill Foster Memorial Highway.

Half of Pine Street, between Rockwood Road and Lillie Street, generally runs in the east-west direction, while the other half between Lillie Street and Bill Foster Memorial Highway runs in the north-south direction, as shown in **Figure 2**. Pine Street is surrounded by a very wide variety of land uses including restaurants, retail and other businesses, and several schools for various ages. Pine Street is the main corridor through downtown Cabot, providing a connection to Interstate 57/US Highway 67 and Bill Foster Memorial Highway.

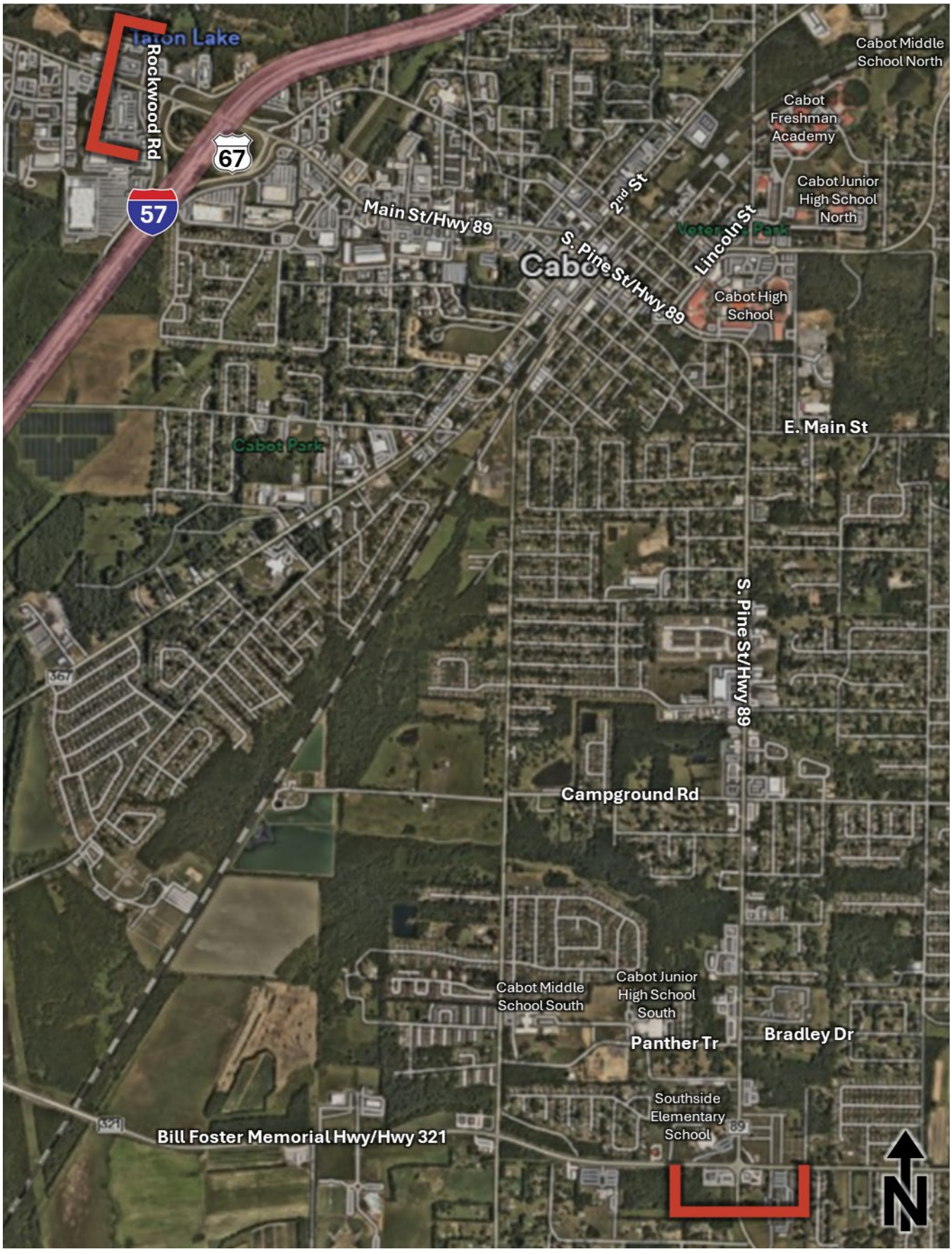


Figure 2: Pine Street Study Corridor Extents

Between 5th Street and Lincoln Street, Pine Street consists of four lanes, with two lanes in each direction. The other sections of the study corridor consist of three lanes, with one lane in each direction separated by a two-way left-turn lane (TWLTL). Pine Street has a sidewalk almost continuously along both sides between Ryeland Drive and Lincoln Street. Sidewalk exits along the north side of Pine Street between Lincoln Street and Madison Street, where a crossing guides pedestrians to the sidewalk that begins on the south side of Pine Street and continues along the west side of the corridor until it ends just north of the Southside Elementary School driveway. Sidewalk exists along the east side of Pine Street between Hampton Place and Pinewood Drive. Pine Street does not have a bike lane along either side of the roadway and there are no transit facilities.

The posted speed limit along Pine Street changes several times along the study segment, with the speed limit being higher at the study segment extents and lower towards the middle. Pine Street has a posted speed limit of 40 miles per hour (mph) between Rockwood Road and Locust Street, 35 mph between Locust Street and 2nd Street, 30 mph between 2nd Street and Francis Street, 40 mph between Francis Street and Campground Road, and 45 mph between Campground Road and Bill Foster Memorial Highway. The study corridor also contains two school zones, which reduce the speed limit to 25 mph when children are present between Lincoln Street and Lillie Street and between Laurel Drive and Bill Foster Memorial Highway.

Average daily traffic (ADT) data provided by ARDOT's Interactive ADT Web App was analyzed along Pine Street, as well as along 2nd Street, Campground Road, and Bill Foster Memorial Highway. ADT counts were taken most recently in 2023. Along Pine Street, approximately 19,000 vehicles were counted just west of 9th Street, 17,000 were counted just west of 2nd Street, 15,000 were counted just east of 2nd Street, and 14,000 were counted just north of Glenwood Drive. Approximately 10,000 vehicles were counted on 2nd Street just south of Pine Street. Approximately 8,200 vehicles were counted on Campground Road just east of Pine Street. Approximately 18,000 vehicles were counted along Bill Foster Memorial Highway just west of Pine Street.

Historic Crash Data

The Central Arkansas Safety Action Plan used 2018 through 2022 crash data to develop the HIN, as it was the most recent full five years of data at the time the development of the HIN began. For the RSA, more recent crash data from 2019 through 2023 was analyzed. During this crash data analysis period, there were a total of 1,111 crashes along the 4.2-mile study corridor of Pine Street. Detailed crash diagram maps are included in **Appendix A**.

Among the 2019 through 2023 crashes along Pine Street, one resulted in a fatality, 16 resulted in suspected serious injuries, and 207 resulted in suspected or potential minor injuries. Over half of all the crashes were at intersections or driveways. The most common crash manner for all crashes was rear-end crashes, making up almost half of the crashes along Pine Street. The second most common crash manner was angle crashes, making up almost a third of all crashes.

Despite nearly 70 percent of all the crashes along the study corridor occurring between Rockwood Road and Main Street, more than half of the crashes that resulted in a fatal or serious injury occurred along the study corridor south of Main Street. Almost half of all the fatal and serious injury crashes were intersection related, two of which occurred at the Pine Street and Campground Road intersection. Almost half of the fatal and serious injury crashes occurred during nighttime hours between dusk and dawn. Almost half of the fatal and serious injury crashes involved a single vehicle.

Existing Plans

Interstate 57/US Highway 67 Interchange Redesign

ARDOT is reconfiguring the Interstate 57/US Highway 67 interchanges with Highway 89 (Pine Street) and Highway 5 by constructing a single-point urban interchange (SPUI) at each. A SPUI is designed to reduce the number of conflict points by consolidating the interchange to a single signalized intersection. The designs include additional through lanes and additional turn lanes to improve traffic operations and relieve congestion. The design for the Highway 89 interchange also includes a roundabout at the intersection with Rockwood Road and pedestrian infrastructure to provide a safe route for pedestrians crossing Interstate 57/US Highway 67. As of June 2025, the reconstruction of these two interchanges has a proposed bid letting date in 2025. ARDOT's April 2019 preliminary design for the Highway 89 interchange is provided in **Figure 3**.

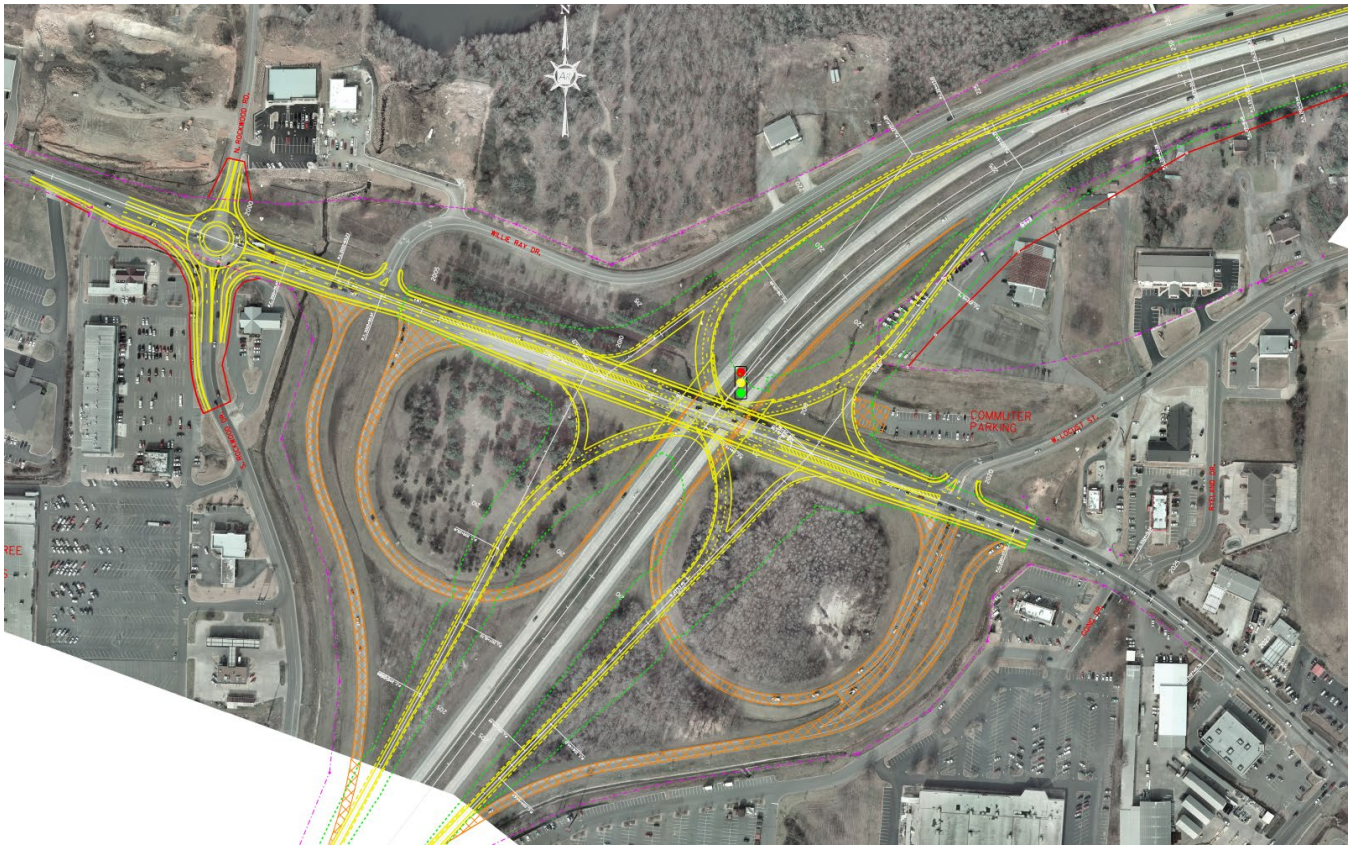


Figure 3: Preliminary Design for US Highway 67 and Highway 89 Interchange Reconfiguration

Central Arkansas Regional Greenways Plan

The Central Arkansas Regional Greenways Plan, adopted by Metroplan in May 2023, outlines existing and future paved bicycle and pedestrian paths and trails to connect all four of Metroplan's counties. The Northeast Corridor branch of the proposed Regional Greenway trail route will connect the City of Little Rock to the City of Cabot, passing through Sherwood and Jacksonville, and continuing past Cabot into Austin and Ward. Within the City of Cabot, the proposed Regional Greenway trail is shown in **Figure 4** to connect residential areas to several schools and near downtown Cabot, from Bill Foster Memorial Highway to Highway 38. Sections of the Regional Greenway main trail or sections of the connectors are proposed along Pine Street to create a continuous stretch of greenway between Main Street and Bill Foster Memorial Highway.

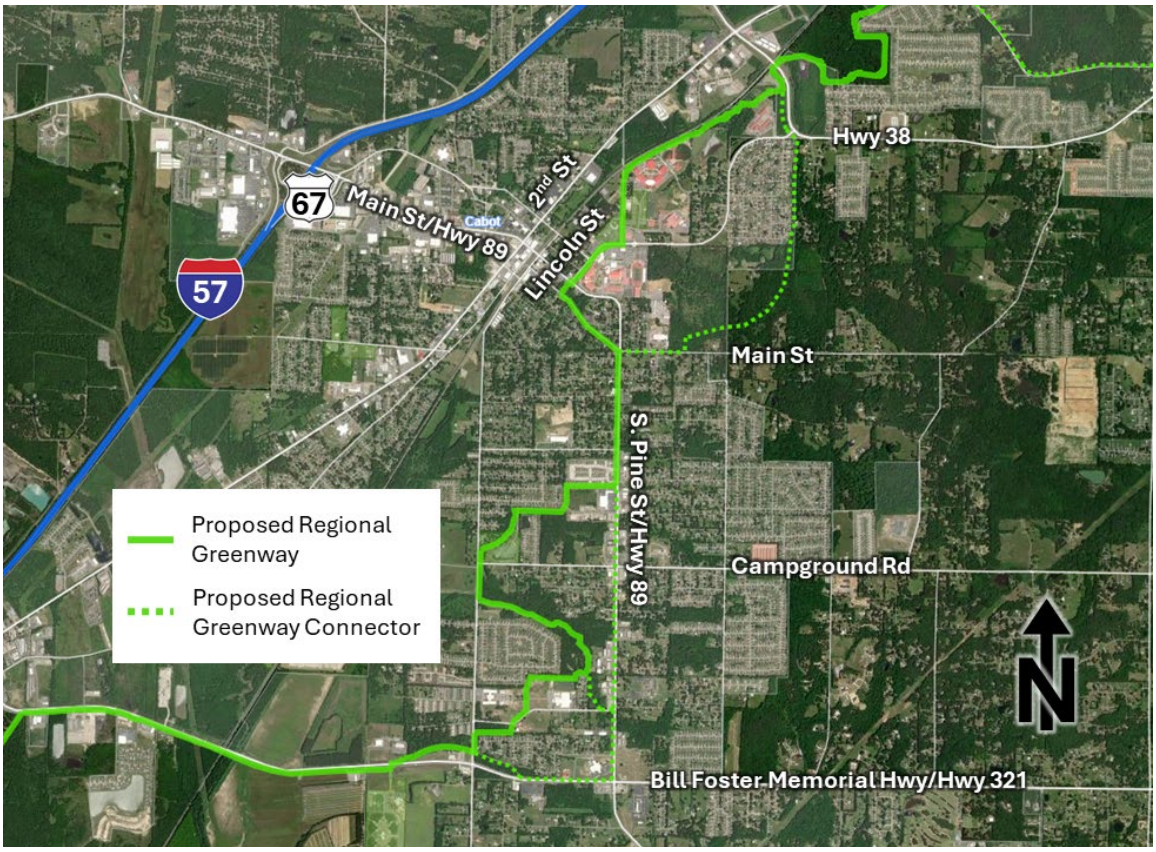


Figure 4: Proposed Regional Greenway Trail Route in Cabot

RSA Observations & Recommendations

Strengths

During the Pine Street RSA field review, several positive aspects of the study corridor were recognized by the RSA team and are worth noting. It is recommended that efforts be made to ensure these features continue to be strengths during future maintenance and operation of Pine Street and that these features are incorporated elsewhere along the study corridor and into the design and construction of new City of Cabot and Lonoke County roads.

Red Brick Crosswalks

Several crosswalks across side streets that intersect Pine Street from 10th Street to 4th Street are identified with red bricks, shown in **Figure 5**, instead of white pavement marking stripes. Crosswalks created with a different color and texture can improve the visibility of the crosswalk for both pedestrians and drivers, encouraging pedestrians to utilize the designated crosswalk and increasing driver awareness of potential pedestrians in the roadway. Their distinct hues make crosswalks stand out, especially in busy urban environments, such as the section of Pine Street where the red brick crosswalks are present.

Figure 5: Red Brick Crosswalk

Continuous Sidewalk

Sidewalk exists along at least one side of Pine Street for nearly the full length of the study corridor, with a majority of the corridor having sidewalk along both sides. ARDOT and the City of Cabot recently completed constructing continuous sidewalk along both sides of Pine Street between Interstate 57/US Highway 67 and 10th Street, which tied into the existing almost continuous sidewalk on both sides of Pine Street from 10th Street to Lincoln Street. Sidewalk exists on at least one side of Pine Street from Lincoln Street to the Southside Elementary School driveway. Providing sidewalk greatly enhances transportation safety for all road users by providing dedicated space for non-motorists to travel, separating them from vehicular traffic and therefore reducing the potential for collisions between motorists and non-motorists.

Suggested Improvements

The RSA team identified suggested improvements based on the daytime and nighttime field reviews of Pine Street as well as discussions with the staff representing Metroplan and City of Cabot. Suggested improvements are provided for corridor-wide issues as well as specific locations along the study segment of Pine Street. The following information is provided for each of the 30 corridor-wide and location-specific suggested improvements in **Table 4**.

- **Location:** Location is defined as either a corridor-wide improvement which is applied to large parts or the entirety of the Pine Street RSA study segment, between Rockwood Road and Bill Foster Memorial Highway, or a specific location along the study segment. For location-specific suggested improvements, road segment or intersection details are provided.
- **Observations:** A summary of the observations made by the RSA team and relevant crash data is provided for each suggested improvement.
- **Suggested Improvements:** Suggested improvements are provided for a range of implementation timeframes identified below. Generally, immediate suggested improvements are considered to be lower-cost countermeasures that address immediate safety issues, such as signing a sharp turn that requires a reduction in speed. Long-term suggested improvements are generally higher-cost improvements that may require additional capital programming or development of engineering plans, such as the reconfiguration of an intersection.

    - Immediate: Less than 1 year
    - Short-Term: 1 – 2 years
    - Mid-Term: 2 – 5 years
    - Long-Term: 5+ years
- **Cost Estimates for Suggested Improvements:** An opinion of probable cost for each suggested improvement is provided. The cost estimation methodology is described in the following section and a list of the unit costs for individual pay items used to develop the cost estimates is provided in **Appendix B**.
- **Photos:** Photos, when available, have been provided to assist the reader in visualizing the described observations and suggested improvements.
- **Conceptual Layouts:** A note is included in the recommendation table if a conceptual layout was developed for the recommendation. Conceptual layouts are included in **Appendix C**.

Table 4: Field Review Observations and Suggested Improvements

1. Guardrail Object Markers

Location: Corridor-Wide

Observations

- Object markers on guardrail are placed where the guardrail reaches its maximum height instead of in advance of the guardrail.

Immediate Improvements

- Relocate object markers to be in advance of all guardrail along Pine Street.

Cost Estimate
Immediate: $22,700

Note: The cost estimate assumes relocation of 18 object markers.

Figure 6: Northbound approach of Pine Street to guardrail between Pinewood Street and Glenwood Drive.

2. Pedestrian Pushbutton Signage

Location: Corridor-Wide

Observations

- Most pedestrian pushbutton signs along the corridor are not consistent with the current *Manual on Uniform Traffic Control Device* (MUTCD) standards.
- A pushbutton sign at the northwest corner of Pine Street and 2nd Street for crossing the north leg of 2nd Street has a double headed arrow, even though there is only one crossing direction and the arrow should only point right.

Immediate Improvements

- Replace all nonstandard pedestrian pushbutton signs on Pine Street with current MUTCD standard pushbutton signs.

Cost Estimate
Short-Term: $1,500

Note: The cost estimate assumes replacement of 26 signs.

Figure 7: Existing pedestrian pushbutton signs at the northwest corner of the intersection of Pine Street and 2nd Street.

3. Retroreflective Backplates

Location: Corridor-Wide

Observations

- Traffic signal retroreflective backplates are only installed on left-turn signal heads along the corridor.

Immediate Improvements

- Add retroreflective backplates to all traffic signal heads on Pine Street.

Cost Estimate
Short-Term: $11,500

Note: The cost estimate assumes 18 traffic signal heads that require backplates and 35 traffic signal heads that only require retroreflective tape on backplates.

Figure 8: Existing traffic signal at Pine Street and Campground Road with a retroreflective backplate installed only on the northbound left-turn signal head.

4. Corridor Lighting

Location: Corridor-Wide

Observations

- Street lighting along the corridor is dim in many locations and there are gaps in the light being cast onto the roadway.
- Majority of existing intersection lighting does not cast light on the entire intersection.
- Pedestrians were observed walking along the sidewalk at night, but it was difficult to see them until they walked directly under a light.
- There is no lighting along Pine Street near Lincoln Street and Cabot High School.
- There is no intersection lighting at the Bill Foster Memorial Highway intersection.
- Six out of 17 fatal and serious injury crashes on Pine Street were at night, with a majority of the crashes occurring along the section of Pine Street between Main Street and Bill Foster Memorial Highway.

Mid-Term Improvements

- Add or improve the existing safety lighting along Pine Street and at intersections.

Cost Estimate
Mid-Term: $1,838,200

Note: The cost estimate assumes corridor lighting improvements on 3-miles of Pine Street and intersection lighting improvements at four intersections.

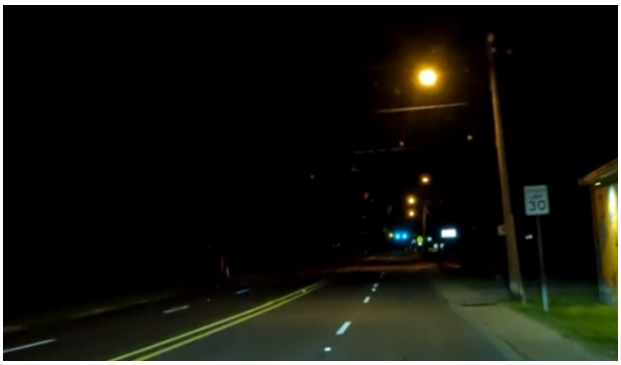


Figure 9: Existing corridor lighting along the south side of Pine Street east of Adams Street.

Figure 10: Existing intersection lighting at Pine Street and Lincoln Street.

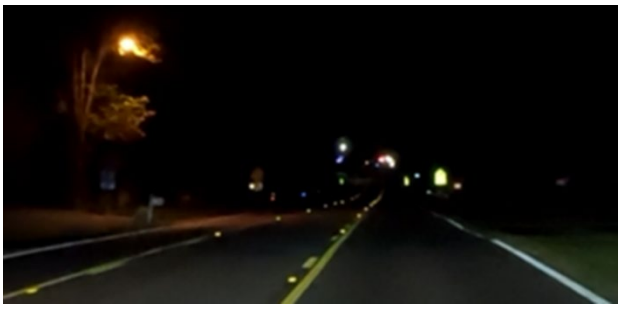


Figure 11: Existing corridor lighting along the east side of Pine Street at the southbound approach to Main Street.

5. Intersection Edge of Pavement

Location: Corridor-Wide

Observations

- Many intersections do not have curb along the corners or the curb does not begin at the approach to help guide vehicles safely around a turn or protect them from ditches and fixed objects.
- Many intersections have deteriorating pavement at corners, often with a steep drop or ditch.
- Examples include the intersections of Pine Street with Campground Road, Panther Trail, and Bill Foster Memorial Highway.

Short-Term Improvements

- Construct curb along the entirety of all corners of intersections and their approaches, particularly where ditches, fixed objects, utilities, and pedestrian infrastructure is present close to the edge of pavement, to provide a buffer between turning vehicles and hazards near the roadway.
- Repair pavement along the edge of corners.
- Create a SafetyEdge along the edge of pavement to provide a recoverable transition from the pavement to side of roadway instead of dropping off straight into a ditch.

Cost Estimate

Short-Term: $570,100

Note: The cost estimate assumes improvements at twelve corners.

Figure 12: Existing utility poles and traffic signal poles and cabinet at the southwest corner of the Panther Trail intersection.

Figure 13: Existing northbound right-turn channelized lane at the Bill Foster Memorial Highway intersection.

6. Traffic Calming

Location: Corridor-Wide

Observations

- City of Cabot representatives noted concern about speeding on the north-south section of Pine Street between Main Street and Bill Foster Memorial Highway. This section of Pine Street is straight and flat and has few traffic signals to potentially slow traffic.

Short-Term Improvements

- Increase presence of Cabot Police Department speed enforcement.

Long-Term Improvements

- Convert the intersection of Pine Street and Lincoln Street to a roundabout to provide traffic calming near Cabot High School. Additional information about this intersection is included in suggested improvement 19.
- Convert the following intersections along the north-south section of Pine Street to roundabouts: Main Street, Campground Road, and Panther Trail/Bradley Drive. Additional information about each of these intersections is included in suggested improvements 21, 22, and 23, respectively.

Cost Estimate
Short-Term: NA
Long-Term: NA

Note: The cost estimate for short-term improvement to increase law enforcement will depend on the use of existing police resources versus use of overtime and other special enforcement activities. The cost estimate for the long-term improvements to add roundabouts are included in suggested improvements 19, 21, 22, and 23.

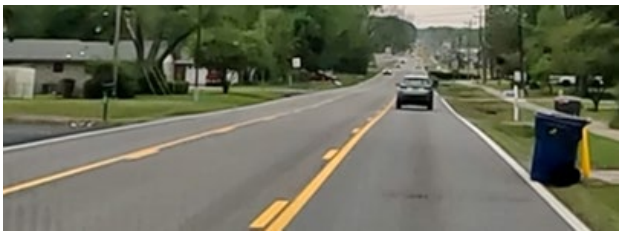


Figure 14: Southbound Pine Street, south of Main Street, is flat and straight with few traffic signals.

7. Access Management

Location: Corridor-Wide

Observations

- A high density of driveways and intersections exist throughout Pine Street on both sides of the road.
- City of Cabot representatives noted that at least one crash a day occurs along the east-west section of Pine Street, where driveway and intersection density is highest.
- Majority of the angle crashes on the Pine Street corridor occurred at driveways. Angle crashes on the corridor included four fatal and serious injury crashes and 309 'other severity' crashes.
- Majority of the head-on crashes on Pine Street occurred at driveways. Head-on crashes on the corridor included four fatal and serious injury crashes and 52 'other severity' crashes.
- City of Cabot representatives noted the existing TWLTL is frequently used as an acceleration lane by vehicles turning out of driveways and minor streets onto Pine Street.
- ARDOT has long-term plans to widen the north-south section of Pine Street between Main Street and Bill Foster Memorial Highway.

Long-Term Improvements

- Implement access management strategies by consolidating access points and increasing the distance between driveways and intersections.

Cost Estimate

Long-Term: $1,750,000

Note: The cost estimate assumes access management strategies along 1-mile of Pine Street.

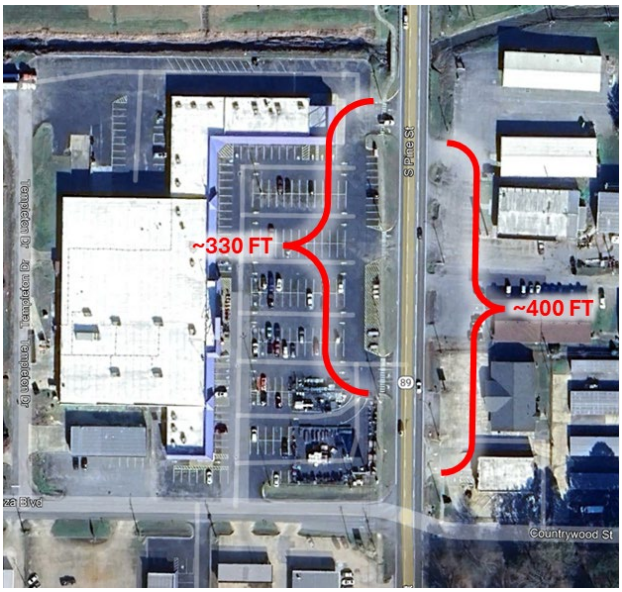


Figure 15: Three driveways exist within approximately 330-feet along the west side of Pine Street, north of Countrywood Street, and seven driveways exist along the east side of Pine Street within approximately 450-feet.

8. Interchange Reconstruction Plans

Location: Interstate 57/US Highway 67 Interchange

Observations

- ARDOT has plans to reconstruct the intersection of Pine Street with Interstate 57/US Highway 67.
- A pedestrian was observed walking along eastbound Pine Street on the channelization island at the southwest corner of the Locust Street intersection, likely coming from the existing overpass over Interstate 57/US Highway 67. Another pedestrian was observed running across Pine Street between the overpass and Locust Street.

Mid-Term Improvements

- Ensure reconstruction of the interchange includes 6" pavement markings, retroreflective object markers for guardrail and bridge walls, retroreflective signage, corridor and intersection safety lighting, and other safety improvements.
- Ensure reconstruction of the interchange provides safe pedestrian infrastructure, including raised concrete refuge islands and high visibility crosswalks.

Cost Estimate

Mid-Term: N/A

Note: The cost estimates are included as part of the current ARDOT reconstruction project.

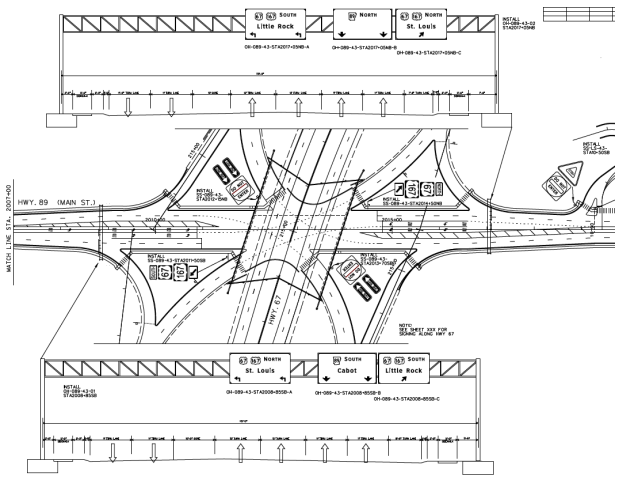


Figure 16: Current ARDOT plans for the signage at the reconstructed interchange of Pine Street with Interstate 57/US Highway 67.

Figure 17: Pedestrian walking eastbound on the channelization island at the southwest corner of the Pine Street and Locust Street intersection.

9. Sign Clutter

Location: Between Locust Street and 6th Street

Observations

- There is an abundance of signage present along both sides of Pine Street, particularly between Interstate 57/US Highway 67 and 2nd Street. An abundance of signage can make it difficult for drivers to detect and process signage related to speed limits and roadway warnings.
- Many business signs are illuminated at night. These signs, when combined with the decorative lighting, intersection and corridor lighting, traffic signals, and parking lot lighting, can make it more difficult for drivers to focus on the road and distinguish traffic signal heads.
- City of Cabot representatives noted that at least one crash per day occurs along the east-west section of Pine Street, but not as many fatal or serious injury crashes occur in this section, likely due to congestion causing slower speeds.

Mid-Term Improvements

- Consider consolidating business-related signs along sections of Pine Street with a high density of signs. This improvement could be especially effective if done in coordination with consolidating driveways.
- Consider developing restrictions on business sign size, height, distance from curb, and other restrictions to reduce the potential for driver distraction.

Cost Estimate
Mid-Term: NA

Note: The cost estimate for this activity will be covered in part through suggested improvement 7 for access management, and in part through private businesses.

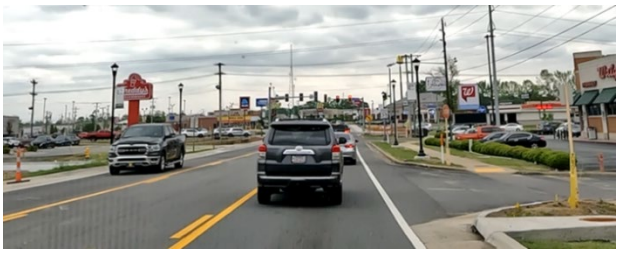


Figure 18: Eastbound Pine Street west of Locust Street in the daytime.

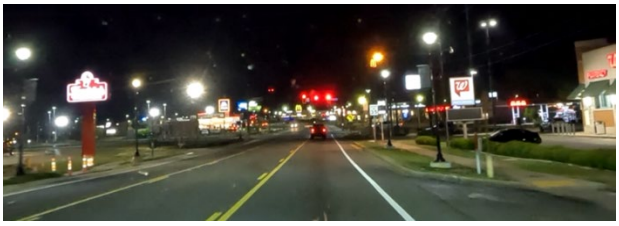


Figure 19: Eastbound Pine Street west of Locust Street in the nightime.

10. Pedestrian Refuge Island

Location: Ryeland Drive/Going Drive Intersection

Observations

- The pedestrian island at Pine Street and Rylan Drive/Going Drive is almost flush with the pavement.

Short-Term Improvements

- Add concrete to raise the island and create more of a buffer between vehicles and pedestrians, as well as provide addition protection to keep the vehicles from hitting poles.

Cost Estimate
Short-Term: $9,500

Figure 20: Existing pedestrian refuge island at the southbound approach of Ryeland Drive to Pine Street.

11. Intersection Lighting

Location: Dakota Drive Intersection

Observations

- Intersection lighting at the southwest corner of Pine Street and Dakota Drive was not operational during the nighttime hours. This may have been due to construction in progress at that corner.
- The intersection was observed to appear dark relative to how much lighting is present along this section of Pine Street.

Immediate Improvements

- Ensure existing intersection lighting is operational.

Cost Estimate
Immediate: NA

Note: The cost estimate is to be determined based on further investigation into the cause of the lighting not being operational.

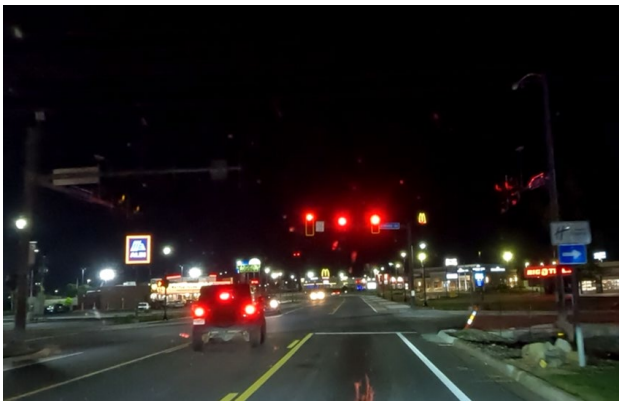


Figure 21: Pine Street and Dakota Drive during the nighttime hours.

12. Lane Line Extensions

Location: 2nd Street Intersection

Observations

- The westbound lanes of Pine Street approaching 2nd Street do not align with the receiving lanes and direct vehicles into opposing traffic.

Immediate Improvements

- Add lane line extension pavement markings through the intersection to guide westbound through traffic.

Cost Estimate
Immediate: $2,600

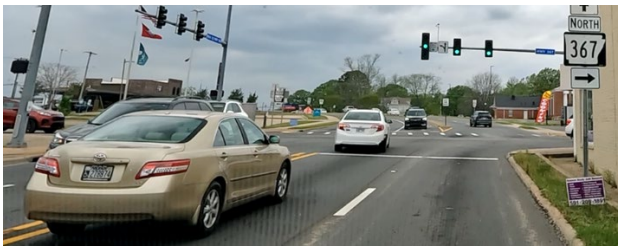


Figure 22: Westbound lanes of Pine Street at 2nd Street are not aligned with the receiving lanes.

13. Traffic Signal Timing

Location: 2nd Street Intersection

Observations

- Westbound left-turn vehicles waiting to turn from Pine Street onto 2nd Street hold up through traffic on Pine Street. Queues in the left lane were observed backing up to Grant Street.
- City of Cabot representatives discussed eliminating the left-turn movement for westbound traffic turning from Pine Street onto 2nd Street.

Immediate Improvements

- Study signal timing and consider the impact of eliminating left-turns for westbound traffic on Pine Street. Benefits of a lagging left-turn phase should also be considered.

Cost Estimate

Immediate: $5,600

Figure 23: Back of westbound queue beginning at 2nd Street in the left lane of Pine Street at Grant Street.

14. Pedestrian Crossing

Location: 2nd Street Intersection

Observations

- Pedestrian ramps at the intersection of Pine Street and 2nd Street are not ADA compliant or directional.
- A crosswalk and pedestrian signal do not exist for crossing the westbound approach of Pine Street to 2nd Street.
- The former fire station on Pine Street, east of 2nd Street, is being converted into a brewery, which is expected to open in July 2025 and generate pedestrian traffic between the brewery and a parking lot on the south side of Pine Street, directly across from the former fire station.
- One minor injury crash involving a pedestrian occurred at this intersection during the five-year study period.

Mid-Term Improvements

- Add a crosswalk and pedestrian signal for crossing the westbound approach of Pine Street to 2nd Street.
- Convert diagonal ramps to ADA compliant directional ramps.
- Build up the sidewalk at the northeast corner of Pine Street and 2nd Street to provide ADA compliant ramps and sidewalk at the northeast corner. This construction will eliminate the existing corner entrance to the thrift store on the northeast corner, but that entrance is not currently being used.
- Add a mid-block rapid rectangular flashing beacon (RRFB) crossing for pedestrians traveling between the parking lot on the south side of Pine Street to the new brewery on the north side.

Cost Estimate

Mid-Term: $448,200

Note: The cost estimate for ADA compliant sidewalk improvements at the northeast corner of Pine Street and 2nd Street will require additional study to determine the feasibility and cost. A rough estimate of $150,000 has been used for the ADA compliant sidewalk improvement and is incorporated into the total cost estimate of $448,200.

Figure 24: Existing diagonal pedestrian ramp at the southeast corner of Pine Street and 2nd Street.

15. Roundabout

Location: 2nd Street Intersection

Observations

- City of Cabot representatives expressed interest in constructing a roundabout at the intersection of Pine Street and 2nd Street to reduce crashes and support movements where delay impacts the operations of the intersection, such as westbound left-turns from Pine Street onto 2nd Street.
- ARDOT has provided the City of Cabot with a conceptual drawing and cost estimate of $13.6M for a roundabout at this intersection.

Mid-Term Improvements

- Construct a roundabout at the intersection of Pine Street and 2nd Street.

Cost Estimate
Mid-Term: $13.6M

Note: The cost estimate for a roundabout at Pine Street and 2nd Street is based on the planning level estimate ARDOT developed for this intersection. The ARDOT estimate includes cost for right-of-way acquisition and utility relocation.

Construction of a roundabout would eliminate the need for suggested improvements 12, 13, and 14 as the roundabout should be designed to accommodate pedestrians. However, suggested improvements 12 and 13 are low cost and can be implemented quickly, so these improvements should still be made to improve safety prior to the construction of the roundabout.

Figure 25: Aerial view of the intersection of Pine Street and 2nd Street.

16. Sidewalk

Location: Between Grant Street and Lincoln Street

Observation from September 2023 Walk Audit

- The sidewalk between Grant Street and Lincoln Street on the north side of Pine Street is uneven and overgrown.

Short-Term Improvements

- Reconstruct the sidewalk on the north side of Pine Street between Grant Street and Lincoln Street.

Cost Estimate
Short-Term: $127,400

Figure 26: Northeast corner of intersection of Pine Street and Grant Street. (Photo from Google Street View June 2024)

17. School Zone Pedestrian Infrastructure

Location: Lincoln Street Intersection

Observations from September 2023 Walk Audit

- There is a major inflow of pedestrians at this intersection due to Cabot High School and a gas station/convenience store.
- A footpath was observed in the grass between the main Cabot High School entrance and Lincoln Street, across from the gas station/convenience store and mirroring the existing sidewalk connection to the sidewalk along the north side of Pine Street. This indicates a potential need for a sidewalk connection to the existing sidewalk along the east side of Lincoln Street.
- No pedestrian signal or button exists for crossing the westbound right-turn channelization lane for vehicles turning from Pine Street onto Lincoln Street. Walk audit participants noted vehicles turning through the channelization lane often travel at a high speed as they turn onto Lincoln Street.
- Existing crosswalk pavement markings are faded.

Short-Term Improvements

- Construct sidewalk for pedestrians traveling on the east side of Lincoln Street from Cabot High School, mirroring sidewalk for pedestrians traveling on north side of Pine Street.
- Install a pedestrian signal button at the northeast corner of Pine Street and Lincoln Street for pedestrians crossing the westbound right-turn channelization lane. This signal should be tied to an advanced warning signal for vehicles traveling north/west on Pine Street.
- Restripe high visibility crosswalks across all legs of the intersection.

Cost Estimate

Short-Term: $64,900

Figure 27: Northeast corner of the intersection of Pine Stret and Lincoln Street. (Photo from Google Street View November 2024)

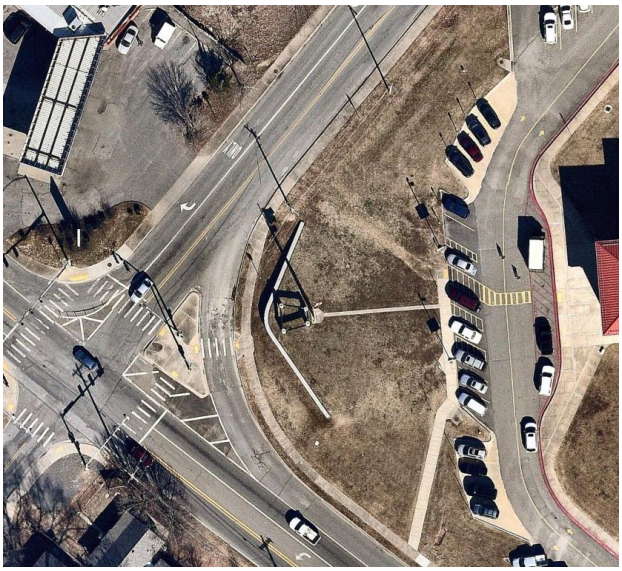


Figure 28: Aerial view of the observed footpath worn in the grass between the main Cabot High School entrance and Lincoln Street, across from the gas station/convenience store.

18. Greenway Trail

Location: Lincoln Street Intersection

Observations from September 2023 Walk Audit

- Proposed and planned Regional Greenway trail includes connections along Lincoln Street through the intersection of Pine Street and Lincoln Street.
- The gas station/convenience store at the northwest corner of the intersection of Pine Street and Lincoln Street has one large driveway on Lincoln Street and two driveways on Pine Street, all of which are very close to the intersection.

Short-Term Improvements

- Add signs to restrict access at the gas station/convenience store driveway on Lincoln Street to either enter only or exit only to eliminate conflict with future Greenway trail path.

Cost Estimate
Short-Term: $2,700

Figure 29: Existing gas station/convenience store at the northwest corner of the Lincoln Street intersection has one large driveway on Lincoln Street and two driveways on Pine Street.

19. Roundabout

Location: Lincoln Street Intersection

Observations from September 2023 Walk Audit

- Walk audit participants noted vehicles turning through the channelization lane often travel at a high speed as they turn onto Lincoln Street.
- Westbound right-turn channelized lane for vehicles turning from Pine Street onto Lincoln Street has a wide radius, allowing drivers to make the turn at a high speed.
- Walk audit included a recommendation for a roundabout to act as a traffic calming measure, improve traffic flow, and support safety for all users.

Mid-Term Improvements

- Construct a roundabout at the intersection of Pine Street and Lincoln Street.

Cost Estimate
Mid-Term: $6.9M

Note: The cost estimate is based on the planning level estimate ARDOT provided for a roundabout at Pine Street and Campgroup Road. The ARDOT estimate includes cost for right-of-way acquisition and utility relocation.

Figure 30: Aerial view of the westbound right-turn channelized lane for turning from Pine Street onto Lincoln Street.

20. Pedestrian Infrastructure

Location: Main Street Intersection

Observations

- Sidewalk does not exist along Main Street east of Pine Street for pedestrians walking to or from Eastside Elementary School.
- The crosswalk across the north leg of Pine Street is skewed, which increases the crossing distance and directs eastbound pedestrians into a deep ditch at the northeast corner of Pine Street and Main Street.
- Drainage and ROW are challenges on the north and south sides of Main Street east of Pine Street. However, the south side is a more feasible location for sidewalk than the north side.

Mid-Term Improvements

- Add sidewalk along Main Street east of Pine Street.
- Move the east-west crosswalk across Pine Street as needed to provide a connection to the new sidewalk.
- Add pedestrian accommodations including ADA compliant ramps and a rectangular rapid flashing beacon.

Cost Estimate

Mid-Term: $250,800

Figure 31: Existing skewed crosswalk across the north leg of the intersection of Pine Street and Main Street leads pedestrians to a ditch at the northeast corner.

21. Intersection Redesign/Roundabout

Location: Main Street Intersection

Observations

- Traffic to and from Eastside Elementary School causes queues along Pine Street and Main Street in the morning and afternoon.
- Main Street is slightly offset on either side of Pine Street, and the eastbound approach is skewed, which can make through movements on Main Street difficult.
- Several potential solutions were discussed with City of Cabot representatives.
  - Potential Solution: Align Main Street by moving the eastbound approach further south onto the City-owned empty lot.
  - Potential Solution: Offset Main Street more by moving the eastbound approach north. However, through movements from either direction along Main Street would have to turn right onto Pine Street then left onto Main Street. This movement risks head-on collisions in the existing TWLTL and these vehicles may conflict with southbound left-turns from Pine Street onto Main Street, which is already a congested movement due to school drop-off and pick-up traffic.
  - Potential Solution: Replace the offset intersection with a roundabout. A roundabout would also act as a traffic calming measure for northbound traffic on Pine Street to slow them down before entering the school zone for Cabot High School. (Concern was noted by City of Cabot representatives that the property owner on the northeast corner operates a business from their home and may not be willing to cooperate with the City if the roundabout requires the acquisition of property.)

Mid-Term Improvements

- Option 1: Realign the eastbound approach of Main Street to the south to align with the existing Main Street westbound approach to create a right-angle four-leg intersection.

– OR –

Long-Term Improvements

- Option 2: Construct a roundabout at the intersection of Pine Street and Main Street.

Cost Estimate
Mid-Term (Option 1): $455,900
Long-Term (Option 2): $6.9M

Note: Option 2 is the preferred option due to the ability of the roundabout to act as a traffic calming device along the straight section of Pine Street and support left-turn movements to and from Main Street. The cost estimate is based on the planning level estimate ARDOT provided for a roundabout at Pine Street and Campgroup Road. The ARDOT estimate includes cost for right-of-way acquisition and utility relocation.

Figure 32: Aerial view of the intersection of Pine Street and Main Street.

22. Intersection Redesign/Roundabout

Location: Campground Road Intersection

Observations

- The eastbound right-turn lane on Campground Road at Pine Street is very narrow (9.5-feet from left stripe to edge of pavement) and lacks an edge line.
- Pavement markings are in poor condition, especially for the Campground Road eastbound right-turn lane where gravel in the road has worn down pavement marketings.
- The pedestrian ramp and detectable warning surface on the southwest corner of the intersection appear to have been run over by vehicles multiple times and are in disrepair. No curb is present at this corner to provide a buffer between vehicles and fixed objects, utilities, and pedestrians
- Pavement along the northeast corner of the intersection is deteriorating into a ditch and no curb is present to provide a buffer between vehicles and fixed objects, utilities, and pedestrians.
- City of Cabot representatives expressed interest in constructing a roundabout at the intersection of Pine Street and Campground Road to reduce crashes and provide a traffic calming measure on Pine Street. A roundabout would also address the issues with lane widths, pedestrian ramps, and corners.
- ARDOT provided the City of Cabot with a conceptual drawing and cost estimate of $6.9M for a roundabout at this location.

Short-Term Improvements

- Option 1: Widen the eastbound right-turn lane and improve striping and markings for the eastbound approach of Campground Road to Pine Street. Repair pedestrian ramp on the southwest corner of the intersection. (Improvements to corners are addressed in suggested improvement 5 for corridor-wide intersection edge of pavement improvements.)

- OR -

Mid-Term Improvements

- Option 2: Construct a roundabout at the intersection of Pine Street and Campground Road.

Cost Estimate
Short-Term (Option 1): $93,600
Mid-Term (Option 2): $6.9M

Note: Option 2 is the preferred option due to the ability of the roundabout to act as a traffic calming measure in conjunction with other suggested roundabouts on the straight north-south section of Pine Street. The cost estimate is based on the planning level estimate ARDOT provided for this roundabout at Pine Street and Campgroup Road. The ARDOT estimate includes cost for right-of-way acquisition and utility relocation.

Figure 33: Conceptual drawing of a roundabout at Pine Street and Campground Road provided by ARDOT.

Figure 34: Southwest corner of Pine Street and Campground Road where vehicles have cut the corner and have worn down the pedestrian ramp.

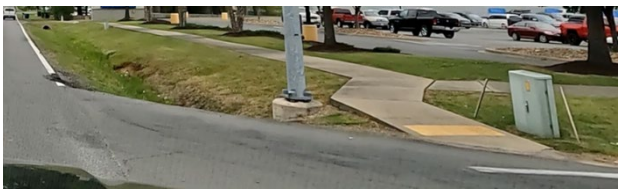


Figure 35: Northeast corner of Pine Street and Campground Road where the pavement edge is close to a ditch, utilities, and a pedestrian ramp.

23. Intersection Redesign/Roundabout

Location: Panther Trail and Bradley Drive Intersections

Observations

- Cabot Junior High School South and Cabot Middle School South are located on Panther Trail west of Pine Street and create traffic congestion issues in the morning and afternoon.
- The northbound left-turn movement on Pine Street may get a green arrow when pedestrians crossing Panther Trail on the west side of Pine Street have a walk symbol, creating a potential conflict between left-turn vehicles and pedestrians.
- Panther Trail and Bradley Drive could be aligned by moving Bradley Drive south, but this would require taking significant parts of the property on the southeast corner of Pine Street and Bradley Drive. City of Cabot representatives noted that property was recently purchased and the owner plans to build a restaurant on this site.
- City of Cabot representatives expressed interest in constructing a single roundabout at the intersections of Pine Street with Panther Trail and Bradley Drive to reduce crashes and provide a traffic calming measure on Pine Street.

Mid-Term Improvements

- Option 1: Align Panther Trail and Bradley Drive by moving Bradley Drive south. This option would likely require the purchase of property from the landowner on the southeast corner of Pine Street and Bradley Drive.

- OR -

- Option 2: Construct a single roundabout at the intersections of Pine Street with Panther Trail and Bradley Drive. This option would likely require the purchase of property from the landowner on the southeast corner of Pine Street and Bradley Drive.

Cost Estimate

Mid-Term (Option 1): $545,000
Mid-Term (Option 2): $6.9M

Note: Option 2 is the preferred option due to the ability of the roundabout to act as a traffic calming device in conjunction with other suggested roundabouts on the straight north-south section of Pine Street. The cost estimate is based on the planning level estimate ARDOT provided for a roundabout at Pine Street and Campgroup Road. The ARDOT estimate includes cost for right-of-way acquisition and utility relocation.

Figure 36: Intersection of Pine Street with Panther Trail and Bradley Drive.

24. Guardrail Object Markers

Location: Panther Trail Intersection

Observations

- The guardrail on both sides of Pine Street south of Panther Trail do not have object markers at either approach.

Immediate Improvements

- Install retroreflective object markers at both approaches of guardrail on both sides of Pine Street.

Cost Estimate
Immediate: $2,700

Figure 37: Existing guardrail on Pine Street south of Panther Trail.

25. Flashing Yellow Arrow

Location: Bill Foster Memorial Highway Intersection

Observations

- Green ball traffic signal heads exist for all approaches to the intersection of Pine Street and Bill Foster Memorial Highway for left-turn permissive phasing.
- Green ball and arrow illuminate together during the left-turn protected phase, which may be confusing due to the yield on green ball sign.
- Studies have shown that flashing yellow arrow signal heads are generally safer than green balls for permissive left-turns because the flashing yellow arrow more clearly communicates that drivers must yield before turning, reducing potential confusion and accidents.

Mid-Term Improvements

- Replace the existing left-turn signal heads at all approaches to the intersection of Pine Street and Bill Foster Memorial Highway with flashing yellow arrow signal heads.

Cost Estimate
Mid-Term: $16,300

Figure 38: Existing left-turn signal head with a green ball and arrow and sign for left-turn vehicles to yield on green ball for northbound vehicles on Pine Street at Bill Foster Memorial Highway.

26. Stop Bars

Location: Bill Foster Memorial Highway Intersection

Observations

- Northbound left-turn vehicles turning from Pine Street onto Bill Foster Memorial Highway have a sharp turn radius and may swing wide into the dedicated lane for southbound right-run vehicles. This is particularly common when vehicles waiting to turn left on eastbound Bill Foster Memorial Highway have stopped past their stop bar.
- Tire marks on the sidewalk and grass, and scuffed curb marks were observed at the northwest corner, likely from large northbound vehicles on Pine Street making a wide left-turn movement onto Bill Foster Memorial Highway.
- Five minor injury angle crashes occurred near the northwest corner of the intersection.

Immediate Improvements

- Relocate the stop bars for the eastbound approach of Bill Foster Memorial Highway further back from Pine Street to provide space for northbound left-turn vehicles with a larger turning radius.

Cost Estimate

Immediate: $400

*Note: A conceptual layout of the improvements recommended at the intersection of Pine Street and Bill Foster Memorial Highway have been included in **Appendix C**.*

Figure 39: Northbound left-turn vehicle turning from Pine Street onto Bill Foster Memorial Highway observed veering into the dedicated lane for southbound right-turn vehicles.

27. Right-Turn Channelization

Location: Bill Foster Memorial Highway Intersection

Observations

- The southbound right-turn channelized lane from Pine Street onto Bill Foster Memorial Highway is very wide (27-feet) and feeds into a narrow dedicated receiving lane (9.5-feet). Some southbound right-turn vehicles were observed stopping, likely because they did not feel comfortable driving into the narrow receiving lane when westbound through traffic was coming or northbound left-turn vehicles may veer into the lane.
- A steep drop off/ditch exists at the northwest corner and the curb does not align with the edge line to protect approaching southbound right-turn vehicles from the ditch.
- A steep drop off/ditch exists at the southeast corner. The pavement overlay does not have SafetyEdge, making it more difficult to recover if a vehicle leaves the pavement. The edge of pavement along the northbound right-turn channelization is crumbling into the ditch.

Mid-Term Improvements

- Reduce the width of the southbound right-turn channelization lane to guide southbound right-turn vehicles into the receiving lane.
- Widen the 9.5-foot southbound right-turn receiving lane to make southbound right-turn vehicles turning from Pine Street onto Bill Foster Memorial Highway more comfortable and provide more space from northbound left-turn vehicles.
- Other improvements to corners are addressed in suggested improvement 5 for corridor-wide intersection edge of pavement improvements.

Cost Estimate

Mid-Term: $66,300

*Note: A conceptual layout of the channelization improvements at the intersection of Pine Street and Bill Foster Memorial Highway have been included in **Appendix C**.*

Figure 40: Existing pavement drop-off at the southeast corner of Pine Street and Bill Foster Memorial Highway. (Photo provided by Google Street View April 2025)

Figure 41: Existing Pine Street southbound right-turn channelized lane curb does not align with edge line to protect approaching turning vehicles from the ditch.

28. Traffic Signal Pole Buffer

Location: Bill Foster Memorial Highway Intersection

Observations

- All existing right-turn channelization islands are flush with the pavement, eliminating the physical buffer between vehicles and the traffic signal poles.
- Traffic signal poles located within the intersection and flush with the pavement make the intersection feel constricted.
- The traffic signal pole near the northwest corner, serving the westbound approach of Bill Foster Memorial Highway, is in front of the mast arm with signals and signs for the southbound approach of Pine Street and blocks the street name sign. The same issue exists for the northbound approach.

Short-Term Improvements

- Option 1: Construct raised concrete islands around all traffic signal poles to create a buffer between vehicles and the traffic signal poles. Move street name signs for Pine Street approaches so that signal poles for Bill Foster Memorial Highway approaches do not block them.

– OR –

Long-Term Improvements

- Option 2: Relocate all traffic signal poles to be out of the paved lane area to reduce risk of a vehicle running into a traffic signal pole and to improve visibility of the mast arms.

Cost Estimate

Short-Term (Option 1): $41,600
Long-Term (Option 2): $3,332,000

*Note: A conceptual layout of the raised concrete island improvements at the intersection of Pine Street and Bill Foster Memorial Highway have been included in **Appendix C**.*

Figure 42: Existing traffic signal pole for signals serving the westbound approach of Bill Foster Memorial Highway blocks the street name sign on the mast arm for the southbound approach of Pine Street.

29. Pedestrian Intersection

Location: Bill Foster Memorial Highway Intersection

Observations

- ARDOT constructed sidewalk along the north side of Bill Foster Memorial Highway, west of Pine Street, which included cutting the curb at the northwest corner to construct a pedestrian ramp. The ramp does not lead to a crosswalk or other pedestrian infrastructure at the intersection.
- Sidewalk exists at the southwest corner of Pine Street and Bill Foster Memorial Highway, but does not have a connection to the sidewalk at the northwest corner.
- No crosswalks or pedestrian signals exist at the intersection.
- Sidewalk along the west side of Pine Street ends north of the Southside Elementary School near Southhaven Avenue.

Mid-Term Improvements

- Provide sidewalk and pedestrian accommodations. Priority will be to provide accommodations for pedestrians to cross Bill Foster Memorial Highway, but eventually all four corners of the intersection should have pedestrian accommodations that meet ADA requirements and include refuge islands.
- Connect sidewalk at the northwest corner to the sidewalk on the west side of Pine Street that ends at Southhaven Avenue.

Cost Estimate

Mid-Term: $352,000

*Note: A conceptual layout of the key pedestrian improvements at the intersection of Pine Street and Bill Foster Memorial Highway have been included in **Appendix C**.*

Figure 43: Existing ramp at the northwest corner does not lead to a crosswalk or connect to any other pedestrian infrastructure.

Cost Estimates

An opinion of probable cost was developed for each of the suggested improvements. Estimated quantities for developing costs were derived through a combination of observations from the RSA field review, reference to aerial imagery, and engineering judgement. The quantities that were used in the cost estimates are preliminary and are not based on engineering design. The RSA team relied on several guidance documents to develop quantities including the *FHWA Manual on Uniform Traffic Control* (MUTCD) as well as ARDOT standards.

The cost estimates provide the City of Cabot with a planning level cost for high-level budgeting and should only be considered approximate. Cost estimates utilize unit pricing based on average unit costs seen on similar road and safety projects. These costs will vary based on local construction costs, size of the project, mobilization costs, and other factors. The unit costs for the pay items used for developing the cost estimates for each suggested improvement are presented in **Appendix B**.

An example of a cost estimate calculation worksheet that was prepared for one of the suggested improvements is provided in **Table 5**. To account for engineering, mobilization, traffic control, and other costs associated with construction, cost estimates were increased by 40 percent. The 40 percent factor used is inclusive of all costs beyond the unit cost used for the suggested improvement costed items.

Table 5: Example Cost Estimate for Suggested Improvement

School Zone Pedestrian Infrastrucutre (Lincoln Street)										
Itemized Recommendation Costs										
			Immediate		Short-Term		Mid-Term		Long-Term	
Improvement	**Unit**	**Unit Cost**	**Quantity**	**Cost**	**Quantity**	**Cost**	**Quantity**	**Cost**	**Quantity**	**Cost**
Add Advance Warning Signage (with Flashing Beacon)	Per Approach	$ 20,000		$ -	1	$ 20,000		$ -		$ -
Add High Visibility Crosswalk Pavement Markings	Per Crossing	$ 3,000		$ -	1	$ 3,000		$ -		$ -
Add Sidewalk	Per Mile (one side)	$ 700,000		$ -	0.019	$ 13,300		$ -		$ -
Add Pedestrian Signal at Signalized Intersection	Per Crossing	$ 10,000		$ -	1	$ 10,000		$ -		$ -
Engineering, Mobilization, Traffic Control, Etc.	40%			$ -		$ 18,520		$ -		$ -
Recommendation Cost Summary										
Total Cost by Timeframe			**Immediate**		**Short-Term**		**Mid-Term**		**Long-Term**	
				$ -		**$ 64,900**		**$ -**		**$ -**
Total Recommendation Cost				**$**						**64,900**

A summary of all suggested improvement cost estimates is provided in **Table 6**. A view of the cost aggregated by type of cost (Signing, Pavement Markings and Striping, and Other) is provided in **Table 7**. This view is provided should the City want to address all signing or pavement marking and striping improvements through a corridor-wide type project.

Table 6: Summary of Suggested Improvement Cost Estimates by Timeframe

No.	Suggested Improvement	Cost Estimate by Implementation Timeframe			
		Immediate	Short-Term	Mid-Term	Long-Term
1	Guardrail Object Markers	$22,700	-	-	-
2	Pedestrian Pushbutton Signage	-	$1,500	-	-
3	Retroreflective Backplates	-	$11,500	-	-
4	Corridor Lighting	-	-	$1,838,200	-
5	Intersection Edge of Pavement	-	$570,100	-	-
6	Traffic Calming	-	-	-	-
7	Access Management	-	-	-	$1,750,000
8	Interchange Reconstruction Plans (Interstate 57/US Highway 67 Interchange)	-	-	-	-
9	Sign Clutter (Locust Street to 6th Street)	-	-	-	-
10	Pedestrian Refuge Island (Ryeland Drive/Going Drive)	-	$9,500	-	-
11	Intersection Lighting (Dakota Drive)	-	-	-	-
12	Lane Line Extensions (2nd Street)	$2,600	-	-	-
13	Traffic Signal Timing (2nd Street)	$5,600	-	-	-
14	Pedestrian Crossing (2nd Street)	-	-	$448,200	-
15	Roundabout (2nd Street)	-	-	$13,600,000	-
16	Sidewalk (Grant Street to Lincoln Street)	-	$127,400	-	-
17	School Zone Pedestrian Infrastructure (Lincoln Street)	-	$64,900	-	-
18	Greenway Trail (Lincoln Street)	-	$2,700	-	-
19	Roundabout (Lincoln Street)	-	-	$6,900,000	-
20	Pedestrian Infrastructure (Main Street)	-	-	$250,800	-
21	Intersection Redesign (Main Street) *Option 1 – Intersection Realignment* *Option 2 – Roundabout*	- -	- -	*$455,900* -	- *$6,900,000*
22	Intersection Redesign (Campground Road) *Option 1 – Lane Improvements* *Option 2 – Roundabout*	- -	*$93,600* -	- *$6,900,000*	- -
23	Intersection Redesign/Roundabout (Panther Trail and Bradley Drive) *Option 1 – Intersection Realignment* *Option 2 – Roundabout*	- -	- -	*$545,500* *$6,900,000*	- -
24	Guardrail Object Markers (Panther Trail)	$2,700	-	-	-
25	Flashing Yellow Arrow (Bill Foster Memorial Highway)	-	-	$16,300	-
26	Stop Bars (Bill Foster Memorial Highway)	$400	-	-	-
27	Right-Turn Channelization (Bill Foster Memorial Highway)	-	-	$66,300	-
28	Traffic Signal Pole Buffer (Bill Foster Memorial Highway) *Option 1 – Raised Islands* *Option 2 – Relocate Signal Poles*	- -	*$41,600* -	- -	- *$3,332,000*
29	Pedestrian Infrastructure (Bill Foster Memorial Highway)	-	-	$352,100	-

Table 7: Summary of Suggested Improvement Cost Estimates by Type

No.	Suggested Improvement	Cost Estimate by Type		
		Signing	Pavement Markings	Other
1	Guardrail Object Markers	$22,700	-	-
2	Pedestrian Pushbutton Signage	$1,500	-	-
3	Retroreflective Backplates	-	-	$11,500
4	Corridor Lighting	-	-	$1,838,200
5	Intersection Edge of Pavement	-	$15,700	$554,400
6	Traffic Calming	-	-	-
7	Access Management	-	-	$1,750,000
8	Interchange Reconstruction Plans (Interstate 57/US Highway 67 Interchange)	-	-	-
9	Sign Clutter (Locust Street to 6th Street)	-	-	-
10	Pedestrian Refuge Island (Ryeland Drive/Going Drive)	-	-	$9,500
11	Intersection Lighting (Dakota Drive)	-	-	-
12	Lane Line Extensions (2nd Street)	-	$2,600	-
13	Traffic Signal Timing (2nd Street)	-	-	$5,600
14	Pedestrian Crossing (2nd Street)	-	$4,200	$444,000
15	Roundabout (2nd Street)	-	-	$13,600,000
16	Sidewalk (Grant Street to Lincoln Street)	-	-	$127,400
17	School Zone Pedestrian Infrastructure (Lincoln Street)	$28,000	$4,200	$32,700
18	Greenway Trail (Lincoln Street)	$2,700	-	-
19	Roundabout (Lincoln Street)	-	-	$6,900,000
20	Pedestrian Infrastructure (Main Street)	-	$4,200	$246,600
21	Intersection Redesign (Main Street) *Option 1 – Intersection Realignment* *Option 2 – Roundabout*	 *$2,700* -	 *$5,300* -	 *$448,000* *$6,900,000*
22	Intersection Redesign (Campground Road) *Option 1 – Lane Improvements* *Option 2 – Roundabout*	 - -	 *$1,400* -	 *$92,3000* *$6,900,000*
23	Intersection Redesign/Roundabout (Panther Trail and Bradley Drive) *Option 1 – Intersection Realignment* *Option 2 – Roundabout*	 *$2,700* -	 *$5,300* -	 *$537,600* *$6,900,000*
24	Guardrail Object Markers (Panther Trail)	$2,700	-	-
25	Flashing Yellow Arrow (Bill Foster Memorial Highway)	-	-	$16,300
26	Stop Bars (Bill Foster Memorial Highway)	-	$400	-
27	Right-Turn Channelization (Bill Foster Memorial Highway)	-	$1,300	$65,000
28	Traffic Signal Pole Buffer (Bill Foster Memorial Highway) *Option 1 – Raised Islands* *Option 2 – Relocate Signal Poles*	 - -	 - -	 *$41,600* *$3,332,000*
29	Pedestrian Infrastructure (Bill Foster Memorial Highway)	-	-	$352,100

Prioritization

Suggested improvements are categorized as high, medium, or low priorities. Prioritization is based on the RSA team's assessment of each safety issue and the impact that the suggested improvements is expected to have on improving safety. Engineering judgement regarding the potential for future crash rate reduction and crash severity reduction were considered when prioritizing the suggested improvements.

While all the suggested improvements are considered important and expected to have a positive impact on safety, it is recommended that the City of Cabot consider focusing on high priority recommendations first as they may yield the greatest impact on safety along Pine Street.

Table 8 organizes each suggested improvement by implementation priority (high, medium, or low). The City may use this prioritization if fiscal constraints and personnel availability prohibit the City from implementing all the suggested improvements in a timely manner.

Table 8: Summary of Suggested Improvement Priorities

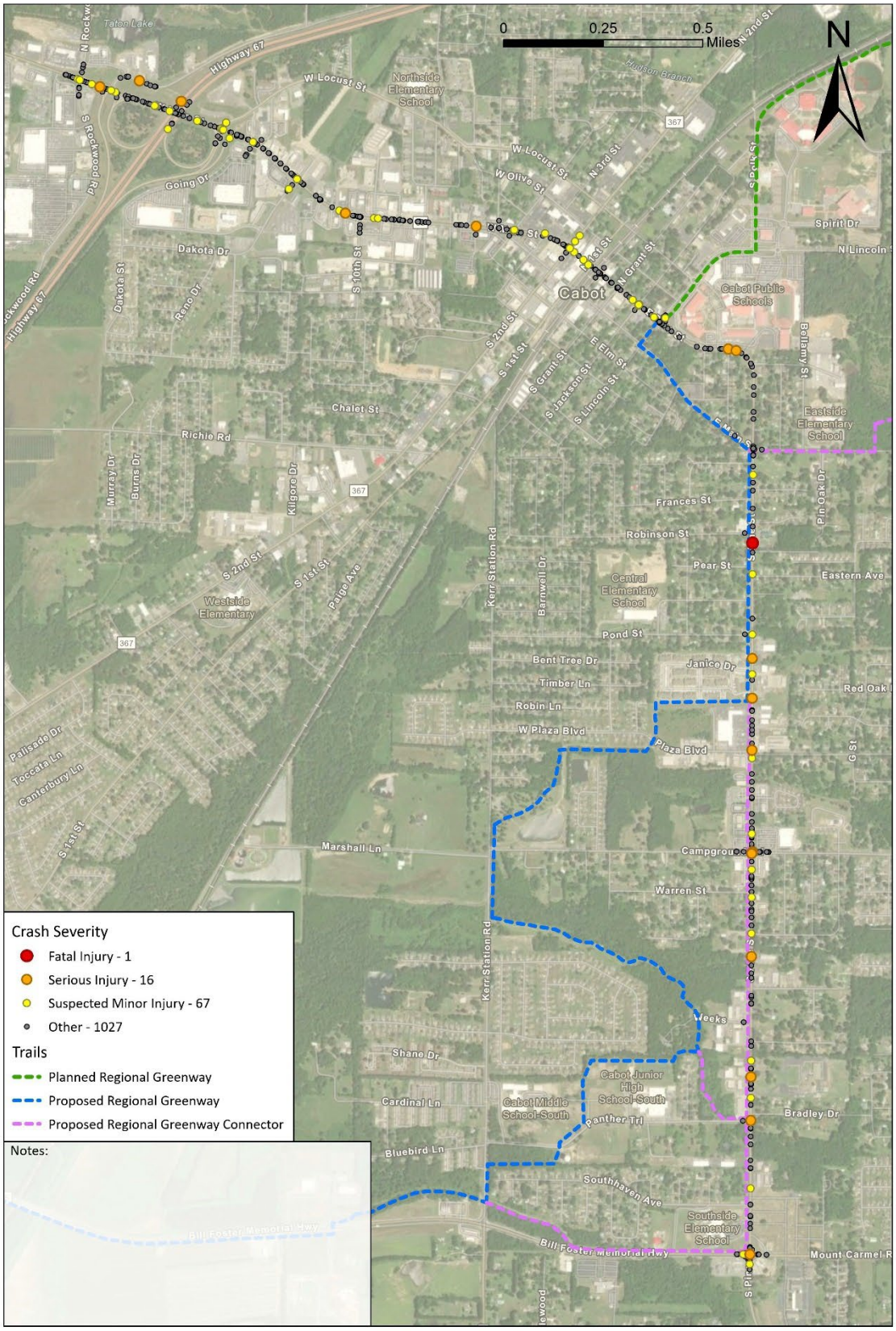
No.	Suggested Improvement	Improvement Timeframe
High Priority Suggested Improvements		
3	Retroreflective Backplates	Short-Term
6	Traffic Calming	Short-Term/Long-Term
8	Interchange Reconstruction Plans (Interstate 57/US Highway 67 Interchange)	Mid-Term
11	Intersection Lighting (Dakota Drive)	Immediate
12	Lane Line Extensions (2nd Street)	Immediate
14	Pedestrian Crossing (2nd Street)	Mid-Term
15	Roundabout (2nd Street)	Mid-Term
17	School Zone Pedestrian Infrastructure (Lincoln Street)	Short-Term
20	Pedestrian Infrastructure (Main Street)	Mid-Term
21	Intersection Redesign (Main Street)	Mid-Term
22	Intersection Redesign (Campground Road)	Short-Term/Mid-Term
25	Flashing Yellow Arrow (Bill Foster Memorial Highway)	Mid-Term
28	Traffic Signal Pole Buffer (Bill Foster Memorial Highway)	Short-Term/Long-Term
Medium Priority Suggested Improvements		
1	Guardrail Object Markers	Immediate
4	Corridor Lighting	Mid-Term
5	Intersection Edge of Pavement	Short-Term
7	Access Management	Long-Term
10	Pedestrian Refuge Island (Ryeland Drive/Going Drive)	Short-Term
13	Traffic Signal Timing (2nd Street)	Immediate
19	Roundabout (Lincoln Street)	Mid-Term
23	Intersection Redesign/Roundabout (Panther Trail and Bradley Drive)	Mid-Term
24	Guardrail Object Markers (Panther Trail)	Immediate
26	Stop Bars (Bill Foster Memorial Highway)	Immediate
27	Right-Turn Channelization (Bill Foster Memorial Highway)	Mid-Term
29	Pedestrian Infrastructure (Bill Foster Memorial Highway)	Mid-Term
Low Priority Suggested Improvements		
2	Pedestrian Pushbutton Signage	Short-Term
9	Sign Clutter (Locust Street to 6th Street)	Mid-Term
16	Sidewalk (Grant Street to Lincoln Street)	Short-Term
18	Greenway Trail (Lincoln Street)	Short-Term

Appendix A: Crash Diagram Maps

SITE: PINE ST/HWY 89

Rockwood Dr to Bill Foster Memorial Hwy/Hwy 321 (4.2 Miles)

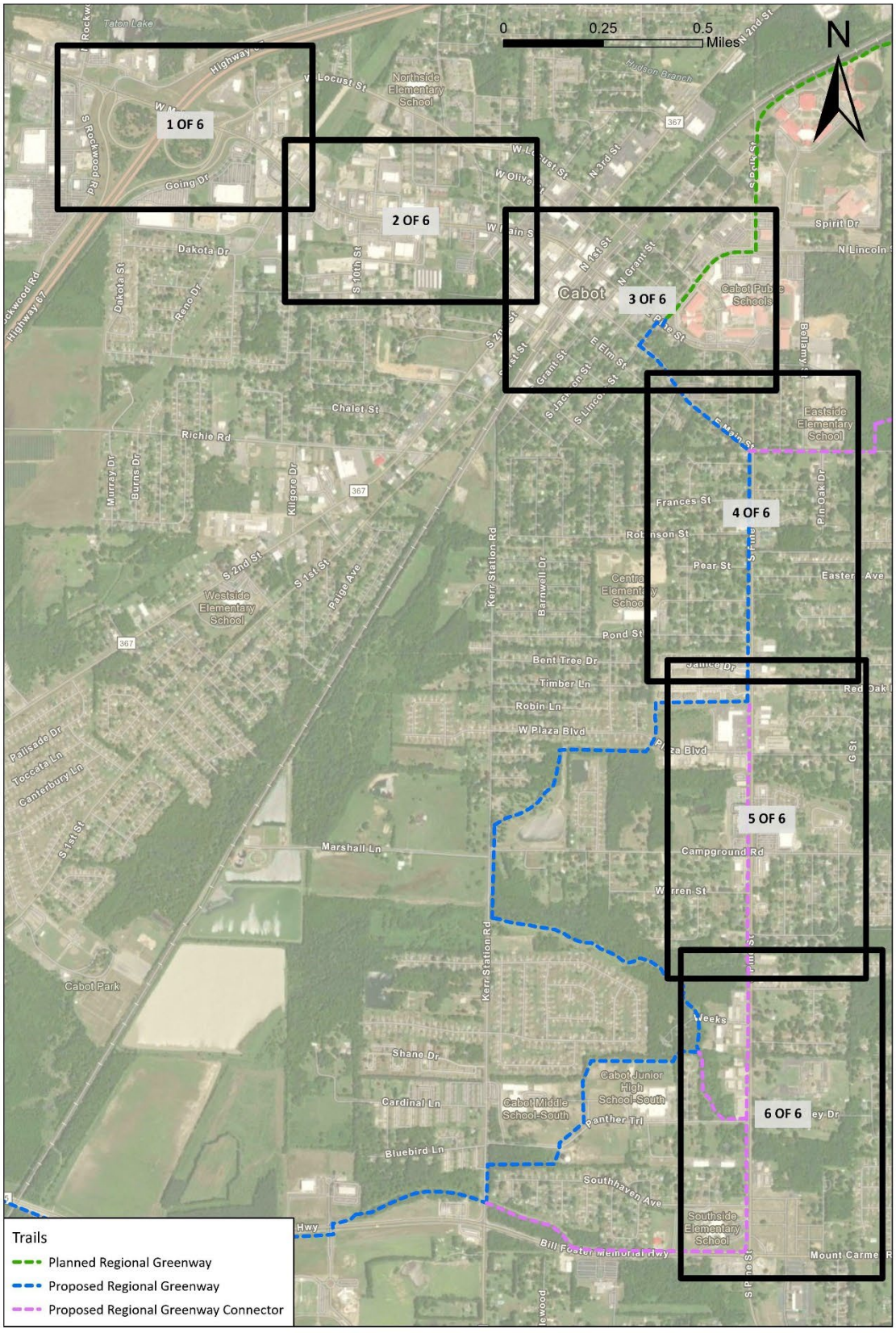
2019 - 2023 Crash Data: 17 KA Crash Count (1111 Total Crash Count)



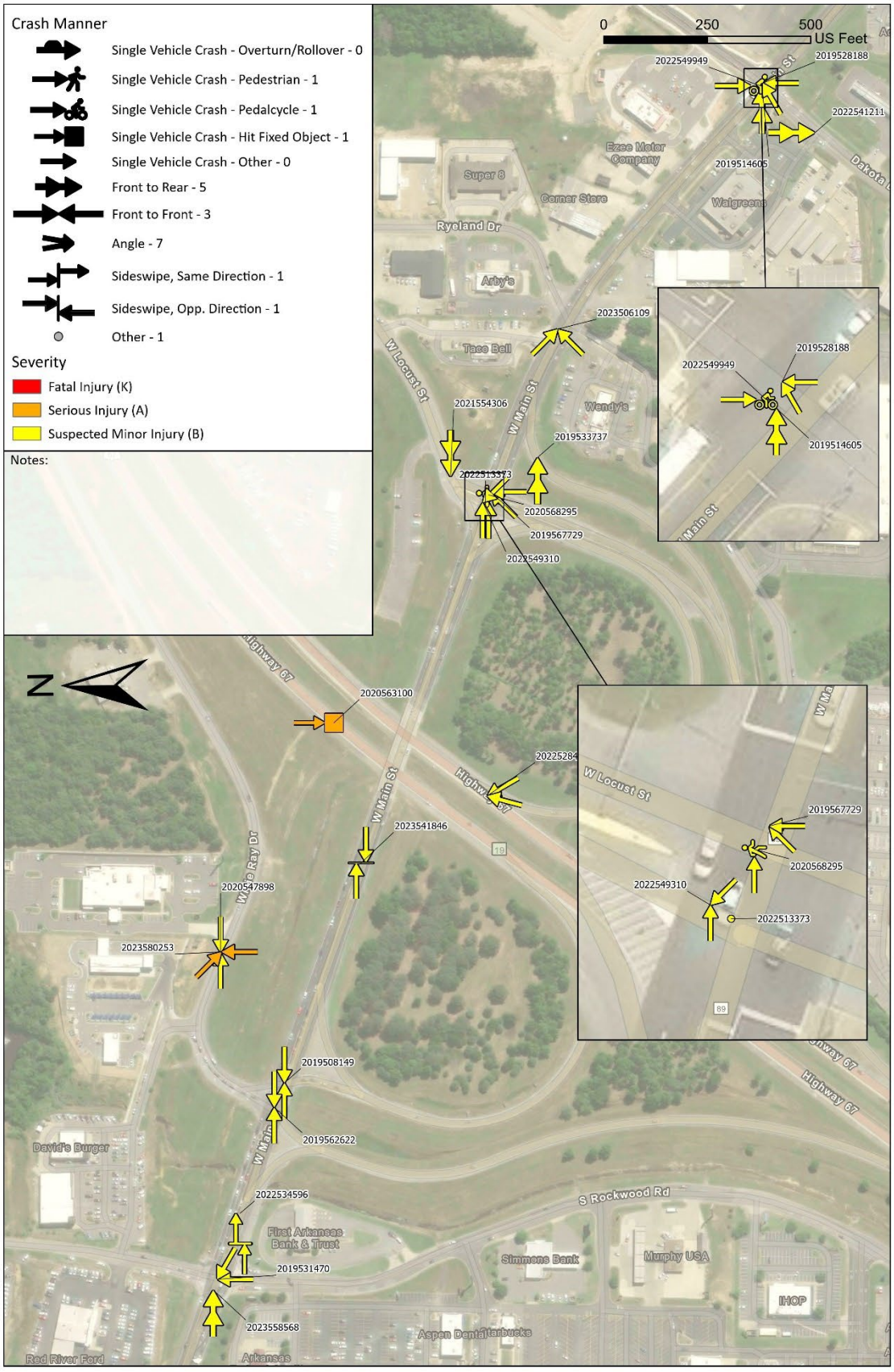
SITE: PINE ST/HWY 89

Rockwood Dr to Bill Foster Memorial Hwy/Hwy 321 (4.2 Miles)

2019 - 2023 Crash Data: 17 KA Crash Count (1111 Total Crash Count)



SITE: PINE ST/HWY 89 (1 OF 6)



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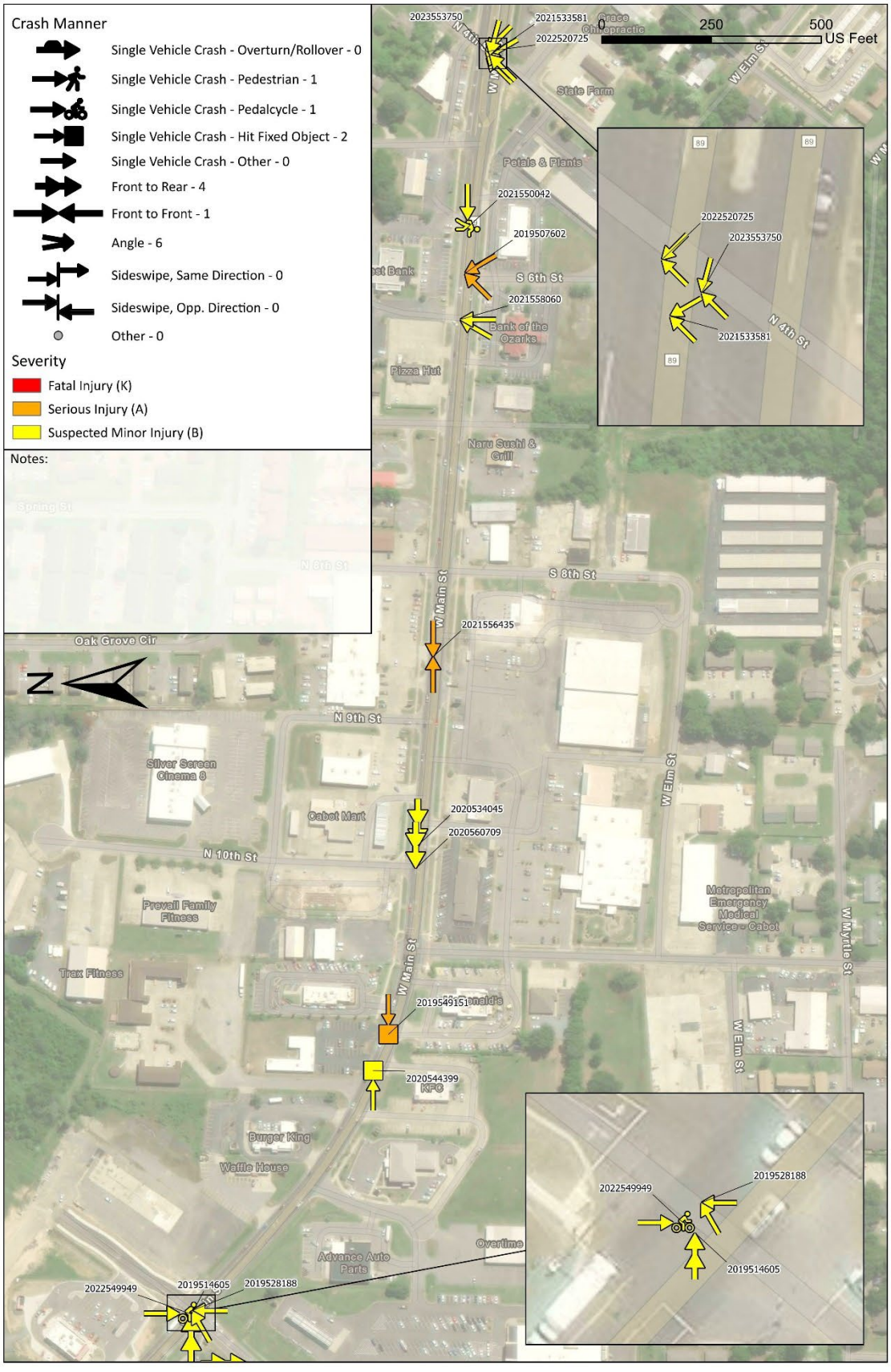
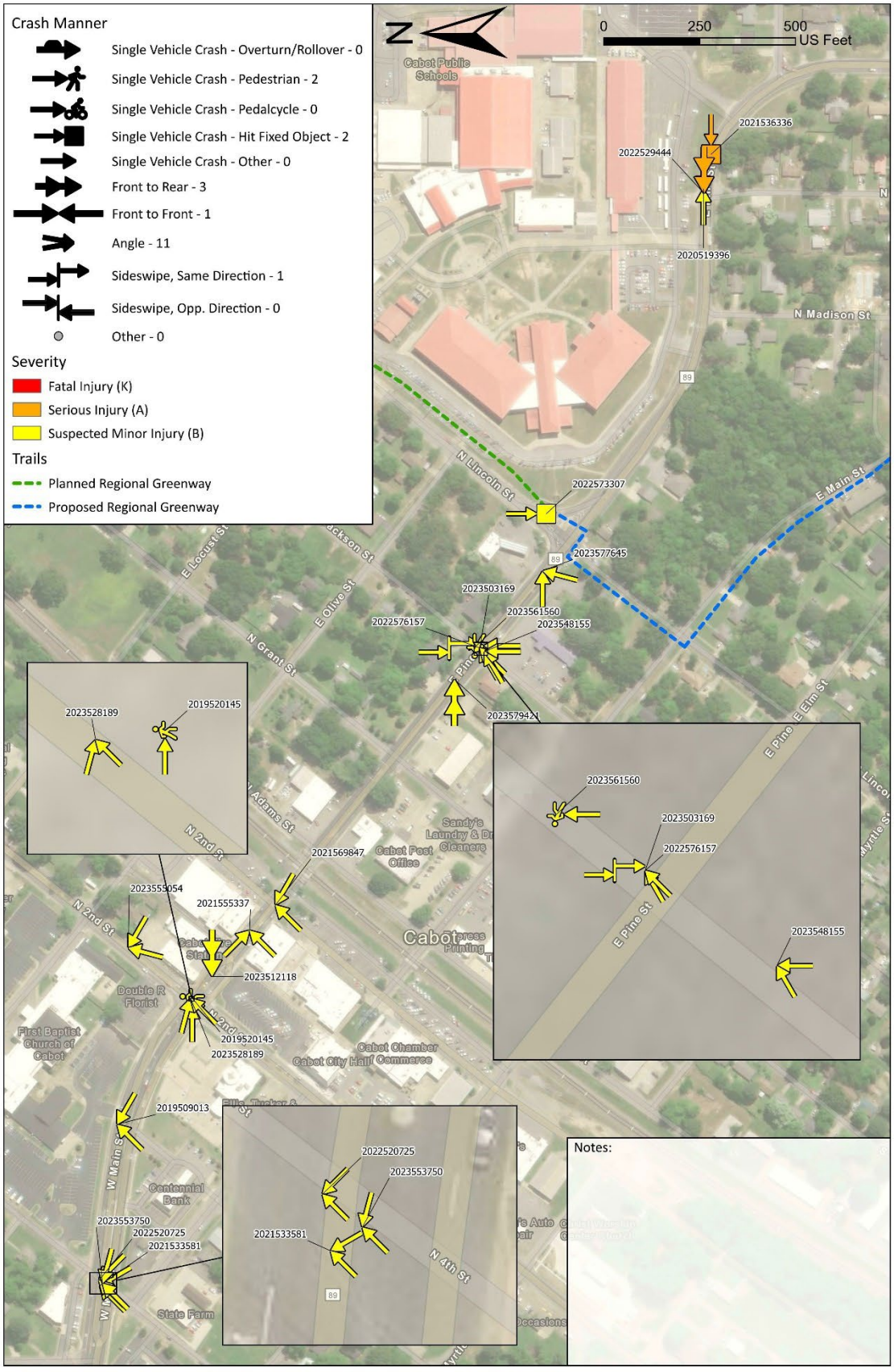
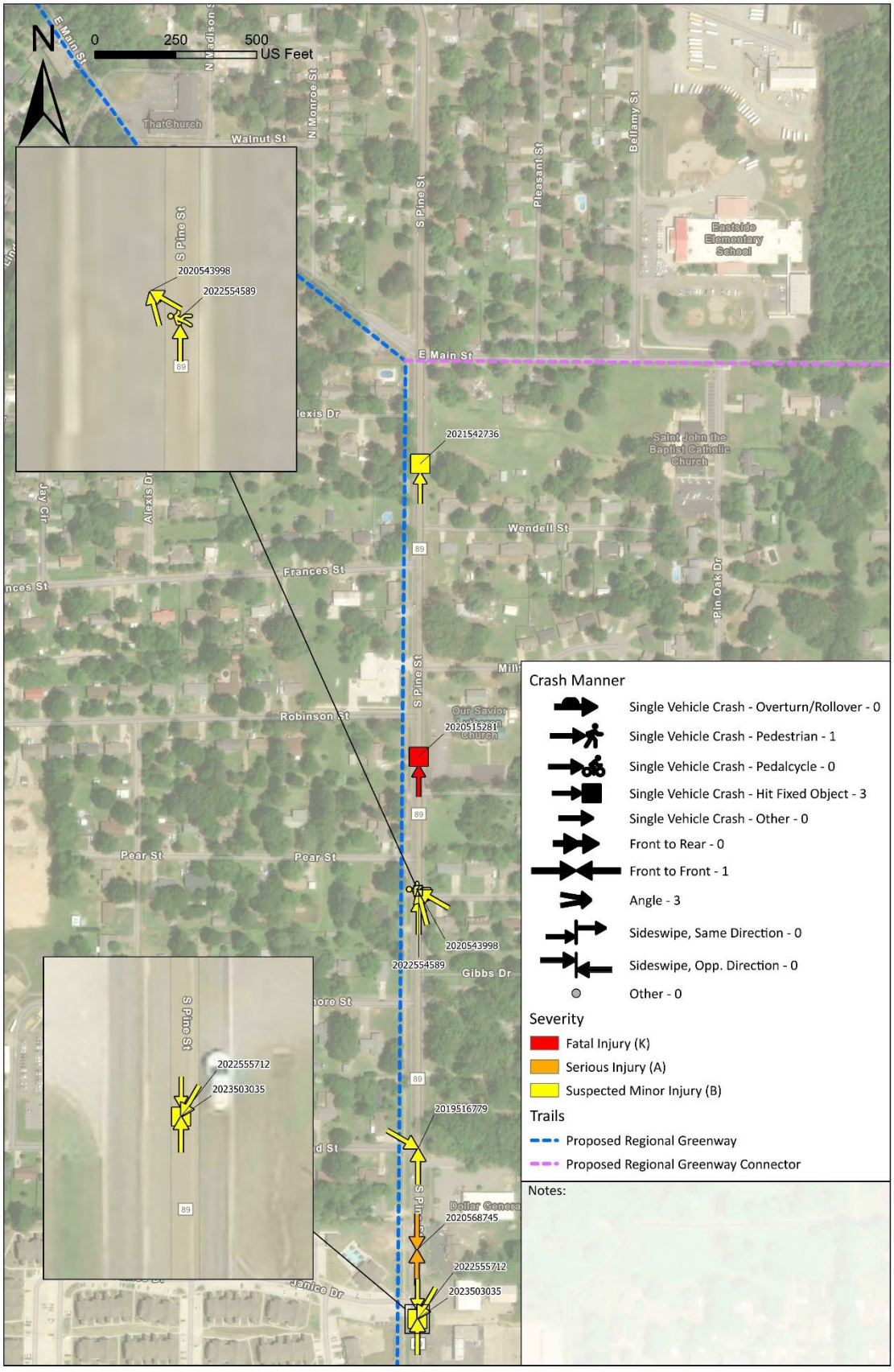


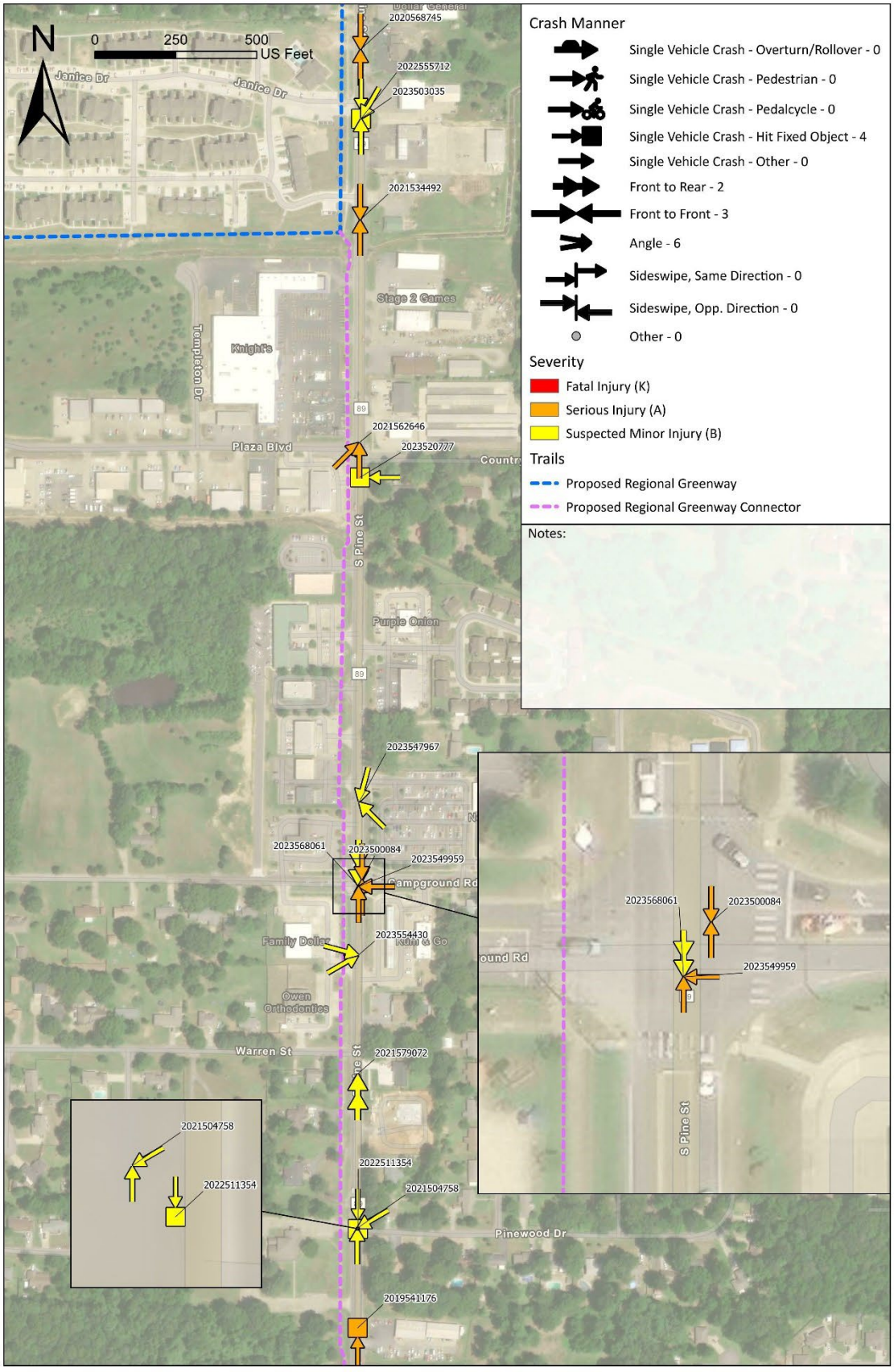
SITE: PINE ST/HWY 89 (3 OF 6)



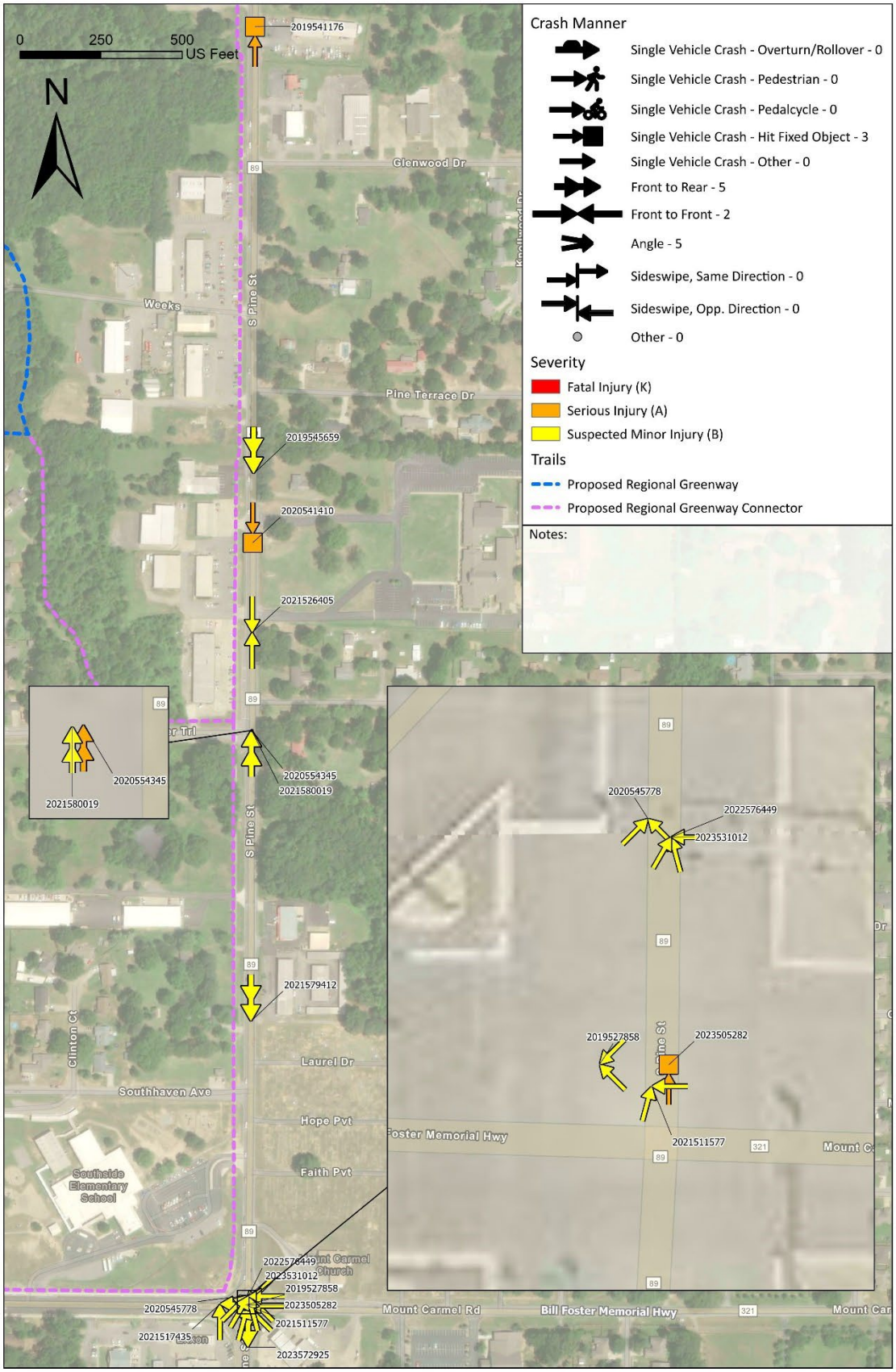
SITE: PINE ST/HWY 89 (4 OF 6)



SITE: PINE ST/HWY 89 (5 OF 6)



SITE: PINE ST/HWY 89 (6 OF 6)



PINE STREET/HWY 89

SUMMARY TABLE

2019-2023 Crash Data: 17 KA Crash Count (1111 Total Crash Count)

Crash Severity	Crash Manner	Lighting Condition	Surface Condition
(K) FATAL INJURY - 1	SINGLE VEHICLE CRASH - 7 (84)	DAYLIGHT - 10 (862)	DRY - 16 (908)
(A) SUSPECTED SERIOUS INJURY - 16	FRONT-TO-REAR - 2 (500)	DAWN - 1 (20)	WET/WATER - 0 (198)
(B) SUSPECTED MINOR INJURY - (67)	FRONT-TO-FRONT - 4 (52)	DUSK - 2 (35)	SNOW - 0 (1)
(C) POTENTIAL MINOR INJURY - (140)	ANGLE - 4 (309)	DARK - LIGHTED - 2 (154)	SLUSH - 0 (0)
(O) NO APPARENT INJURY - (887)	SIDESWIPE, SAME DIRECTION - 0 (138)	DARK - NOT LIGHTED - 2 (38)	ICE/FROST - 0 (3)
	SIDESWIPE, OPP. DIRECTION - 0 (10)	DARK - OTHER/UNKNOWN - 0 (2)	UNKNOWN - 0 (1)
	OTHER - 0 (2)		

KAB Crash Detail Table

State Case Number	Crash Date	Crash Day	Crash Time*	Crash Severity	Crash Manner	Lighting Condion	Surface Condition
2019507602	2019-02-12	TUE	04:08	SUSPECTED SERIOUS INJURY	ANGLE	DAYLIGHT	DRY
2019508149	2019-02-20	WED	08:15	SUSPECTED MINOR INJURY	FRONT-TO-FRONT	DARK - NOT LIGHTED	DRY
2019509013	2019-02-25	MON	01:47	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2019514605	2019-03-29	FRI	10:05	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DARK - LIGHTED	DRY
2019516779	2019-04-10	WED	03:54	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2019520145	2019-04-27	SAT	02:20	SUSPECTED MINOR INJURY	SINGLE VEHICLE CRASH - COLLISION WITH PEDESTRIAN	DAYLIGHT	DRY
2019527858	2019-06-05	WED	10:40	SUSPECTED MINOR INJURY	ANGLE	DARK - LIGHTED	DRY
2019528188	2019-06-08	SAT	08:30	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2019531470	2019-06-27	THU	10:05	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2019533737	2019-07-10	WED	09:35	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DAYLIGHT	DRY
2019541176	2019-08-21	WED	08:50	SUSPECTED SERIOUS INJURY	SINGLE VEHICLE CRASH - COLLISION WITH CULVERT	DAWN	DRY
2019545659	2019-09-13	FRI	07:27	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DAYLIGHT	DRY
2019549151	2019-09-30	MON	10:15	SUSPECTED SERIOUS INJURY	SINGLE VEHICLE CRASH - COLLISION WITH DITCH	DAYLIGHT	DRY
2019562622	2019-11-25	MON	07:44	SUSPECTED MINOR INJURY	FRONT-TO-FRONT	DAYLIGHT	DRY
2019567729	2019-12-20	FRI	01:35	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2020515281	2020-03-24	TUE	15:51	FATAL INJURY	SINGLE VEHICLE CRASH - COLLISION WITH CULVERT	DAYLIGHT	DRY
2020519396	2020-04-19	SUN	21:09	SUSPECTED MINOR INJURY	FRONT-TO-FRONT	DARK - LIGHTED	WET
2020534045	2020-07-16	THU	09:14	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DAYLIGHT	DRY
2020541410	2020-08-22	SAT	20:40	SUSPECTED SERIOUS INJURY	SINGLE VEHICLE CRASH - COLLISION WITH CULVERT	DARK - LIGHTED	DRY
2020543998	2020-09-04	FRI	15:30	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2020544399	2020-09-07	MON	21:26	SUSPECTED MINOR INJURY	SINGLE VEHICLE CRASH - COLLISION WITH CULVERT	DARK - LIGHTED	DRY
2020545778	2020-09-14	MON	19:00	SUSPECTED MINOR INJURY	ANGLE	DUSK	DRY
2020547898	2020-09-23	WED	10:58	SUSPECTED MINOR INJURY	FRONT-TO-FRONT	DAYLIGHT	WET
2020554345	2020-10-23	FRI	19:11	SUSPECTED SERIOUS INJURY	FRONT-TO-REAR	DARK - NOT LIGHTED	DRY
2020560709	2020-11-18	WED	16:18	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DAYLIGHT	DRY
2020563100	2020-11-21	SAT	20:38	SUSPECTED SERIOUS INJURY	SINGLE VEHICLE CRASH - COLLISION WITH DITCH	DARK - NOT LIGHTED	DRY
2020568295	2020-12-24	THU	21:05	SUSPECTED MINOR INJURY	SINGLE VEHICLE CRASH - COLLISION WITH PEDESTRIAN	DARK - NOT LIGHTED	DRY
2020568745	2020-12-28	MON	14:00	SUSPECTED SERIOUS INJURY	FRONT-TO-FRONT	DAYLIGHT	DRY
2021504758	2021-01-28	THU	07:54	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2021511577	2021-03-03	WED	17:10	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2021517435	2021-04-01	THU	17:50	SUSPECTED MINOR INJURY	FRONT-TO-FRONT	DAYLIGHT	DRY
2021526405	2021-05-10	MON	07:35	SUSPECTED MINOR INJURY	FRONT-TO-FRONT	DAYLIGHT	DRY
2021533581	2021-06-08	TUE	16:26	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	WET
2021534492	2021-06-11	FRI	16:07	SUSPECTED SERIOUS INJURY	FRONT-TO-FRONT	DAYLIGHT	DRY
2021536336	2021-06-19	SAT	13:42	SUSPECTED SERIOUS INJURY	SINGLE VEHICLE CRASH - COLLISION WITH CURB	DAYLIGHT	DRY
2021542736	2021-07-19	MON	03:03	SUSPECTED MINOR INJURY	SINGLE VEHICLE CRASH - COLLISION WITH DITCH	DARK - LIGHTED	WET

**Note that some crashes were reported in military time and some crashes were reported using a 12-hour clock system without indicating AM or PM. Therefore, crashes with a time reported as 1300 and later can be assumed to be PM, but crashes with a time reported as earlier than 1300 may have occurred in the AM or PM. Please utilize the date and lighting condition columns to help determine if the crash occurred in the AM or PM.*

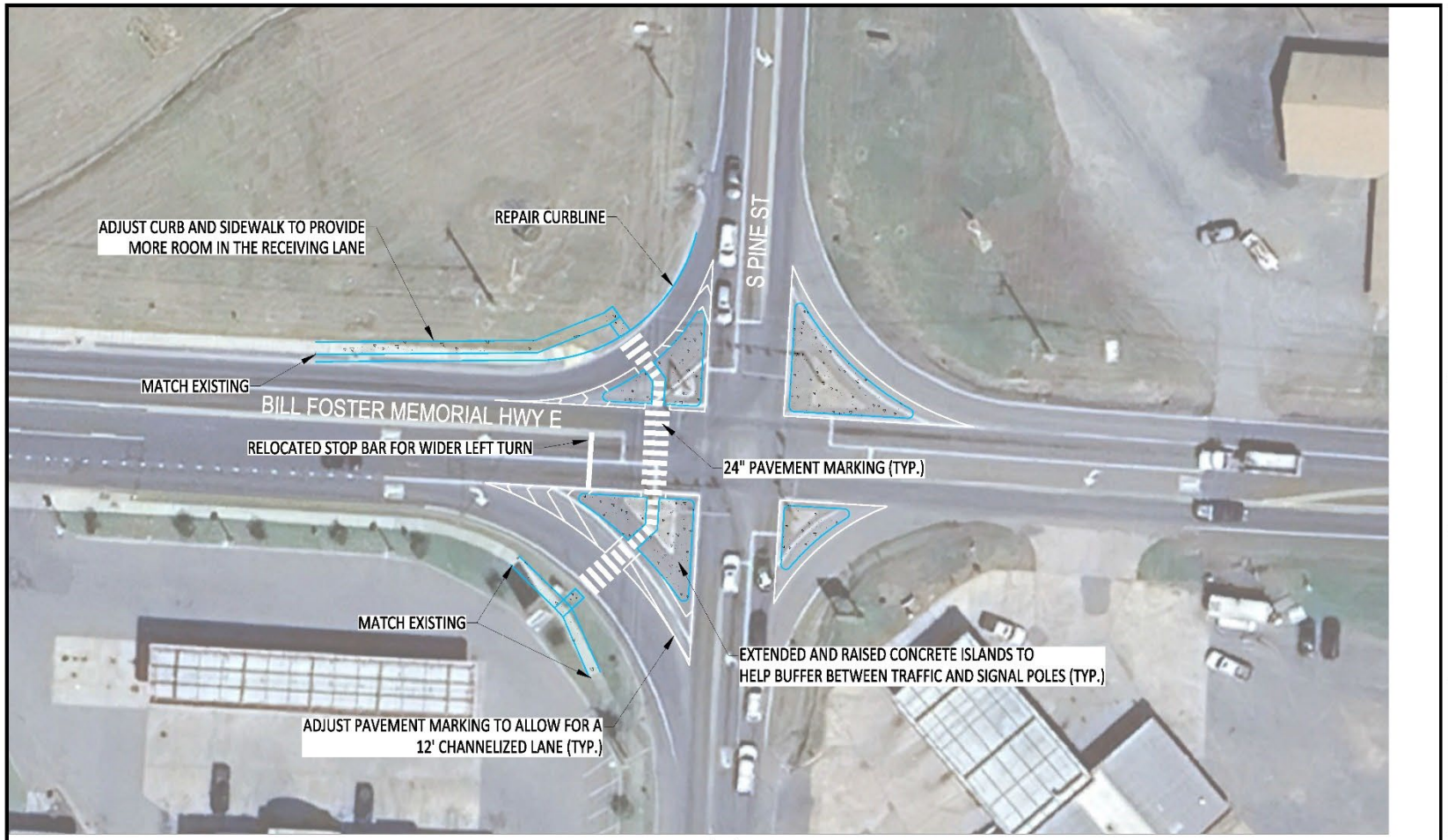
State Case Number	Crash Date	Crash Day	Crash Time*	Crash Severity	Crash Manner	Lighting Condion	Surface Condition
2021550042	2021-08-22	SUN	15:35	SUSPECTED MINOR INJURY	SINGLE VEHICLE CRASH - COLLISION WITH PEDESTRIAN	DAYLIGHT	DRY
2021554306	2021-09-09	THU	18:45	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DAYLIGHT	DRY
2021555337	2021-09-14	TUE	12:46	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2021556435	2021-09-18	SAT	19:00	SUSPECTED SERIOUS INJURY	FRONT-TO-FRONT	DUSK	DRY
2021558060	2021-09-24	FRI	13:40	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2021562646	2021-10-08	FRI	14:28	SUSPECTED SERIOUS INJURY	ANGLE	DAYLIGHT	DRY
2021569847	2021-11-08	MON	14:23	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2021570783	2021-11-12	FRI	15:37	SUSPECTED MINOR INJURY	SINGLE VEHICLE CRASH - COLLISION WITH DITCH	DAYLIGHT	DRY
2021579072	2021-12-15	WED	07:27	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DAWN	WET
2021579412	2021-12-16	THU	07:50	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DAYLIGHT	WET
2021580019	2021-12-17	FRI	17:05	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DUSK	WET
2022511354	2022-02-27	SUN	14:05	SUSPECTED MINOR INJURY	SINGLE VEHICLE CRASH - COLLISION WITH DITCH	DAYLIGHT	DRY
2022513373	2022-03-08	TUE	13:20	SUSPECTED MINOR INJURY	OTHER	DAYLIGHT	DRY
2022520725	2022-04-11	MON	15:15	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2022528406	2022-05-15	SUN	12:40	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2022529444	2022-05-19	THU	07:49	SUSPECTED SERIOUS INJURY	FRONT-TO-REAR	DAYLIGHT	DRY
2022534596	2022-06-11	SAT	11:35	SUSPECTED MINOR INJURY	SIDESWIPE, SAME DIRECTION	DAYLIGHT	DRY
2022541211	2022-07-14	THU	14:40	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DAYLIGHT	DRY
2022549310	2022-08-23	TUE	07:26	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2022549949	2022-08-23	TUE	12:04	SUSPECTED MINOR INJURY	SINGLE VEHICLE CRASH - COLLISION WITH PEDALCYCLE	DAYLIGHT	WET
2022554589	2022-09-15	THU	18:34	SUSPECTED MINOR INJURY	SINGLE VEHICLE CRASH - COLLISION WITH PEDESTRIAN	DAYLIGHT	DRY
2022555712	2022-09-20	TUE	13:18	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2022573307	2022-11-29	TUE	10:40	SUSPECTED MINOR INJURY	SINGLE VEHICLE CRASH - COLLISION WITH EMBANKMENT	DAYLIGHT	WET
2022576157	2022-12-09	FRI	15:45	SUSPECTED MINOR INJURY	SIDESWIPE, SAME DIRECTION	DAYLIGHT	DRY
2022576449	2022-12-11	SUN	11:25	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2023500084	2023-01-01	SUN	17:22	SUSPECTED SERIOUS INJURY	FRONT-TO-FRONT	DUSK	DRY
2023503035	2023-01-18	WED	06:10	SUSPECTED MINOR INJURY	SINGLE VEHICLE CRASH - COLLISION WITH DITCH	DARK - LIGHTED	DRY
2023503169	2023-01-18	WED	15:43	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	WET
2023505282	2023-01-27	FRI	09:00	SUSPECTED SERIOUS INJURY	SINGLE VEHICLE CRASH - COLLISION WITH UTILITY POLE/LIGHT SUPPORT	DAYLIGHT	DRY
2023506109	2023-01-31	TUE	16:00	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	ICE/FROST
2023512118	2023-02-28	TUE	17:12	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DAYLIGHT	DRY
2023520777	2023-04-08	SAT	15:22	SUSPECTED MINOR INJURY	SINGLE VEHICLE CRASH - COLLISION WITH DITCH	DAYLIGHT	DRY
2023528189	2023-05-11	THU	11:37	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	WET
2023531012	2023-05-23	TUE	20:04	SUSPECTED MINOR INJURY	ANGLE	DUSK	DRY
2023541846	2023-07-13	THU	13:26	SUSPECTED MINOR INJURY	SIDESWIPE, OPP. DIRECTION	DAYLIGHT	DRY
2023547967	2023-08-11	FRI	22:00	SUSPECTED MINOR INJURY	ANGLE	DARK - LIGHTED	DRY
2023548155	2023-08-12	SAT	17:00	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2023549959	2023-08-21	MON	07:21	SUSPECTED SERIOUS INJURY	ANGLE	DAYLIGHT	DRY
2023553750	2023-09-07	THU	15:40	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2023554430	2023-09-08	FRI	16:55	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2023555054	2023-09-13	WED	07:37	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2023558568	2023-09-27	WED	18:54	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DARK - LIGHTED	DRY
2023561560	2023-10-10	TUE	19:39	SUSPECTED MINOR INJURY	SINGLE VEHICLE CRASH - COLLISION WITH PEDESTRIAN	DARK - LIGHTED	DRY
2023568061	2023-11-03	FRI	16:00	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DAYLIGHT	DRY
2023572925	2023-11-22	WED	16:35	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DAYLIGHT	DRY
2023577645	2023-12-13	WED	07:21	SUSPECTED MINOR INJURY	ANGLE	DAYLIGHT	DRY
2023579421	2023-12-20	WED	17:22	SUSPECTED MINOR INJURY	FRONT-TO-REAR	DARK - LIGHTED	DRY
2023580253	2023-12-22	FRI	20:23	SUSPECTED SERIOUS INJURY	ANGLE	DARK - LIGHTED	WET

**Note that some crashes were reported in military time and some crashes were reported using a 12-hour clock system without indicating AM or PM. Therefore, crashes with a time reported as 1300 and later can be assumed to be PM, but crashes with a time reported as earlier than 1300 may have occurred in the AM or PM. Please utilize the date and lighting condition columns to help determine if the crash occurred in the AM or PM.*

Appendix B: Unit Costs

Item	Unit Cost	Unit	Notes
Add High Visibility Crosswalk Pavement Markings	$3,000	Per Crossing	
Add/Improve Pavement Markings	$930	Per Approach Lane	
Add/Restripe Stop Bars	$230	Per Approach lane	
Install Standard Sign	$470	Per Sign	This cost estimate includes signs such as no parking signs, warning signs, or speed limit signs.
Replace/Relocate Standard Sign	$900	Per Sign	This cost estimate includes signs such as no parking signs, warning signs, or speed limit signs.
Add Plaque Under Sign	$40	Per Plaque	An example of this is the "ALL-WAY" plaque used in conjunction with stop signs.
Add Advance Warning Signage (with Flashing Beacon)	$20,000	Per Approach	This cost estimate assumes two static signs with a flashing beacon on each sign.
Add Sidewalk	$700,000	Per Mile (one side)	This cost estimate assumes the reconstruction of existing driveways but does not include costs for right-of-way acquisition, utility relocation, or site modifications.
Convert Diagonal Ramps to Directional Ramps	$30,000	Per Corner	This cost estimate assumes converting a single ramp into two directional ramps.
Add Rectangular Rapid Flashing Beacon (RRFB)	$30,000	Per Crossing	This cost estimate assumes the installation of three RRFB assemblies.
Pavement Repair	$290	Per Square Yard	
Remove Pavement	$30	Per Square Yard	
Construct Raised Concrete Median	$270	Square Yard	
Construct Curb and Gutter	$2,500,000	Per Mile	This cost estimate assumes adding underground drainage and asphalt overlay.
Add 4' Shoulder	$190,000	Per Mile	
Update Traffic Signal Timings	$4,000	Per Intersection	
Add Retroreflective Backplates	$300	Per Backplate	
Update Left-Turn Signal to Flashing Yellow Arrow	$2,900	Per Approach	This cost estimate assumes the existing cabinet and controller are capable of Flashing Yellow Arrow operation.
Traffic Signal Reconfiguration	$2,380,000	Per Intersection	
Add Pedestrian Signal at Signalized Intersection	$10,000	Per Crossing	This cost estimate assumes one signal on each side of the crossing and would require four signals to cover all legs of a four-way intersection.
Roundabout	$ 4,928,570 to 9,714,285	Per Intersection	This cost estimate assumes the installation of a 200-foot diameter roundabout on a State Highway.
Add Intersection Lighting	$47,000	Per Intersection	This cost estimate assumes the use of two existing utility poles for intersection lighting.
Add Corridor Lighting	$375,000	Per Mile	This cost estimate assumes the installation of new poles spaced every 200 feet.
Access Management	$1,250,000	Per Mile (Both Sides)	This cost estimate assumes a reduction in curb cuts and the removal or conversion of a two-way left-turn lane into dedicated left-turn lanes. It does not include costs for right-of-way acquisition, utility relocation, or site modifications.
Add Retroreflective Tape on Backplates	$80	Per Backplate	

Appendix C: Suggested Improvement Cost Estimates



REFERENCE NOTES SCHEDULE PINE ST & BILL FOSTER

SYMBOL	CODE	DESCRIPTION	QTY
03 CONCRETE			
	03-03	CONC MEDIAN	3,170 SF

GENERAL NOTES:
-REPAIR ALL CURBS ALONG CORNERS AND APPROACHES
-ADD RETROREFLECTIVE MARKERS IN FRONT OF SIGNAL POLES
-MOVE STREET SIGN NAMES FOR PINE STREET SO THE SIGNAL POLES FOR BILL FOSTER MEMORIAL HWY DOES NOT BLOCK THEM
-REPLACE LEFT TURN SIGNAL HEADS WITH FLASHING YELLOW ARROW SIGNAL HEADS FOR ALL APPROACHES
-ADD PEDESTRIAN SIGNALS FOR CROSSING THE WEST LEG OF THE INTERSECTION
-FUTURE IMPROVEMENTS SHOULD INCLUDE PEDESTRIAN ACCOMMODATIONS ON ALL LEGS OF THE INTERSECTION

NORTH

0 20 40 80 feet
SCALE 1" = 20'

Crafton Tull

PINE STREET & BILL FOSTER MEMORIAL HWY

L4.01

Conceptual Layout of Suggested Improvements 26, 27, 28 and 29 at Pine Street and Bill Foster Memorial Highway